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A compendium of shipbuilding standards.
Consolidated pilot phase report.

Corporate-Tool

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NATIONALL

SHIPBUILDING

STANDARDS

PROGRAM

TASK S-20: A COMPENDIUM OF SHIPBUILDING STANDARDS

CONSOLIDATED PILOT PHASE REPORT

**Transportation
Research institute**

October 16, 1978

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Transportation
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1.0 INTRODUCTION AND BACKGROUND

Task S-20 is an initial project of the National Shipbuilding Standards Program (NSSP) being conducted by Bath Iron Works Corporation under contract to the Maritime Administration. The objectives of the task are to assist the Ship Production Committee's Subcommittee SP-6 on Shipbuilding Standards and ASTM Committee F-25, shipbuilding, in the planning of the NSSP by:

- Screening the following classes of standards for applicability to the current U.S. shipbuilding industry
 - U.S. standards currently used in shipbuilding
 - U.S. industrial standards
 - Foreign shipbuilding standards
- Constructing a catalog of these standards
- Recommending areas for the preparation of new standards for shipbuilders

Task S-20 is comprised of two major phases: a Pilot phase, during which the catalog and cataloging systems were designed and a test sample of standards processed; and a Production Phase, during which 5,000 to 10,000 standards will be cataloged and the NSSP Catalog of Standards for Shipbuilding produced.

The objectives of the Pilot Phase were:

- Design of the catalog and cataloging system, including:
 - cataloging (indexing) systems
 - screening criteria
 - a computerized system for storing, sorting, and printing the accumulated data
- Processing of a sample of U.S. and foreign standards
- Preliminary analysis of the Pilot Phase sample of standards for completeness, duplication, and conflict
- Planning and Production Phase processing of standards

This report describes the accomplishments of the Pilot Phase in each of the above areas. Individual documents were prepared for several of these subject areas. They are included here as Appendices; to avoid redundancy, this report will freely reference them. For instance, Appendix B is the Cataloging Guide for Production Phase processing of standards; Section 4.1 - Processing Procedures briefly describes the rationale behind the planned procedures and directs the reader to Appendix B for further details.

2.0 DESIGN OF NSSP CATALOG OF STANDARDS FOR SHIPBUILDING

A major portion of the Pilot Phase work was the design of the end product of Task S-20, the NSSP Catalog of Standards for Shipbuilding. This included three parts: designing the cataloging or indexing system, planning for the screening and ranking of standards with respect to suitability for listing in the catalog, and design of a data processing system to manage the data involved and produce the Catalog itself.

2.1 Cataloging Systems

"Cataloging systems" refers to the organization of the Catalog to facilitate the location of standards by the users, designers and F-25 designers and engineers, as well as the members of ASTM Committee F-25, who will be responsible for reviewing the catalog to determine what new standards are needed, and preparing those standards. The intended users are knowledgeable, which influences the design of the cataloging or indexing systems. These should be generally concise, and lead to grouping of related standards rather than to isolation of standards into many separate categories.

Three systems were chosen, resulting in three separate parts of the Catalog as shown in Figure 2-1. First, the standards are organized by ship functional area. The set of Functional Area Categories are a form of work breakdown structure that group standards by the functional area, such as steam systems, to which they pertain. Next, the standards are organized by subject category, that is, the principal kind of material, good, or service which they principally describe. Finally, the standards are listed simply by organization responsible for their maintenance.

The functional area listing provides a way of finding standards for related but different components. For instance, under

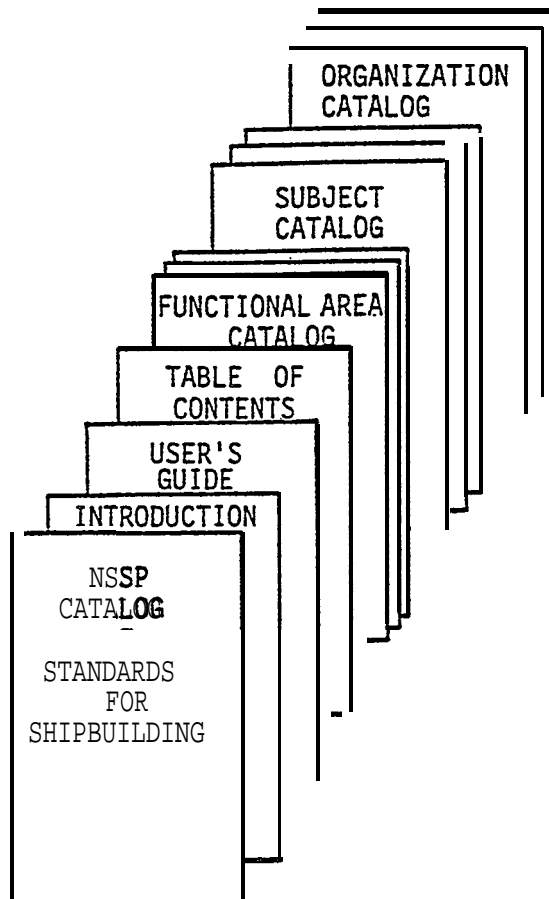


FIGURE 2-1:
THE NSSP CATALOG OF
STANDARDS FOR SHIPBUILDING

The FACC'S are organized into eight major groups, which have fifty-five individual categories:

- 000 - General
- 100 - Structure
- 200 - Hull Outfit
- 300 - Hull Equipment
- 400 - Propulsion Equipment
- 500 - Cargo Outfit and Equipment
- 600 - Consumables and Spares
- 700 - Shipyard

A detailed list of FACC'S is found in Figure 2-2 and Appendix A - User's Guide to the NSSP Catalog of Standards for Shipbuilding.

In addition to searching for standards by functional area, there is often need to find standards dealing with, for instance, pumps, regardless of the principal use of the pump. To this end, a listing of standards by subject category is provided. The subject categories depend upon the set of cataloged standards; where it is possible to cover the functional area categories without seeing any standards, an exhaustive list of subject categories would be both expensive to develop and difficult to use in the cataloging process. The subject categories will be created to provide adequately sized categories - neither so large as to create groups that are too large to comfortably scan (e.g., "pipe") nor so small as to amount to individual listing (e.g., "Pipe, Copper, 1/2 inch, Type L").

Each standard is assigned to at least one and up to three subject categories. For instance, standards dealing with plastic pipe appear under Plastic Pipe and Pipe, Plastic, in order to facilitate searches for standards describing various kinds of pipe as well as various uses of plastics. However, where several terms apply to the same item, such as "light" and "window", or "padeye", and "eyeplate", generally the standard is listed under only one. This arrangement depends upon a competent user being able to scan for and recognize synonymous subject categories;

	GENERAL 000	STRUCTURE 100	HULL OUTFIT 200	HULL EQUIPMENT 300	PROPULSION 400	CARGO 500	CONSUMABLES AND SPARES 600	SHIPYARD 700
11	ELECTRICAL MATERIAL	PLATE	FOUNDATIONS	MOORING AND HANDLING	MAIN PROPULSION	CARGO HANDLING	SHIP SPARES	CONSTRUCTION OPERATIONS
12	JOINING	SHADE	SFA CRISTS	STEERING AND STABILIZATION	PROPULSION AUXILIARIES	CARGO STORAGE	SHORE SPARES	ENGINEERING AND DESIGN
13	PIPE, ETC.	FORGINGS AND CASTINGS	HULL APPENDAGES	HULL PIPING	ELECTRICAL POWER	ENVIRONMENT CONTROL	CONSUMABLES	CONTRACTS AND ADMINISTRATION
14	RIGGING	HULL FASTENINGS	HULL FITTINGS	ACCOMMODATIONS	STEAM SYSTEM	LIQUID HANDLING		
15	TEST AND MEASUREMENT	ASSEMBLIES	HULL OPENINGS	HVAC	HYDRAULIC SYSTEM	SPECIAL TANKS		
16	GENERAL MATERIAL		SOLID BALLAST	NAVIGATION, COM- MUNICATION & LYG	COMPRESSED AIR SYSTEM			
17	SAFETY		SURFACE PREPARATION AND COATINGS	FIRE DETECTION	AUXILIARY POWER SYSTEM			
18	MECHANICAL PARTS		PENETRATIONS		AUTOMATION			
19	MISCELLANEOUS							
20	INSULATION							
21	DOCUMENTATION AND CERTIFICATION							
22	TOOLS AND SIMPS							
23	STORES STORAGE							
24	MANUALS AND MARKINGS							
25	NOISE AND VIBRATION							

NATIONAL SHIPBUILDING STANDARDS PROGRAM
FUNCTIONAL AREA CATEGORY CODES

FIGURE 2-2: FUNCTIONAL AREA CATEGORY CODES

e alternative is a very bulky catalog which would be quite awkward for the majority of users.

Finally, the standards are also listed by organization and number, to facilitate checking for more detailed information when these are known, as in the case of a citation by a contract specification, or simply to see whether a given standard is listed in the catalog, or to check the coverage of a given organization's standards by the catalog.

Appendix A is the User's Guide to the NSSP Catalog, which will be a part of the final document. It contains further descriptions of the three cataloging systems, as well as sample tables of contents and pages from each of the three sections.

2.2 Screening and Ranking Standards

Two separate but related problems are addressed here: the screening of standards for inclusion in the Catalog and the ranking of standards to establish priorities for the review of standards by Committee F-25.

Before cataloging a standard, it is necessary to determine whether or not it is of potential use to the shipbuilding industry. This screening is accomplished in two steps: A "pre-screening" takes place when standards are chosen for examination. Many standards can be identified as not applicable to shipbuilding simply from their titles; for instance, ANS (NFPA No. 407-1975, "Aircraft Fuel System Maintenance") will not appear in the NSSP Catalog. In the event such information is required, presumably the user will consult more general catalogs of standards.

None)*. These assessments will appear in the Catalog, and thus be available to help the user to select from among several similar standards those which are most likely to be of most value to him. In addition, those marked "Marginal Benefits" or "Major Modification Required" will be likely to receive special review by ASTM's Committee on Shipbuilding, F-25.

This committee has been established in conjunction with the NSSP for the purpose of "developing standard specifications, test methods, definitions, and practices for design, construction, and repair of marine vessels." Primary input to this effort is the NSSP Catalog which identifies the existing standards, and by elimination, those areas for which standards do not exist or where the existing standards display "Marginal Benefits" or require "Major Modification".

At the beginning of the Task S-20 it was also felt that a more detailed ranking of standards or need for standards with respect to importance to the shipbuilding industry would materially assist F-25 in its work. Detailed investigation demonstrated, however, that the breadth of interests of the industry makes one-dimensional ranking impractical. Such a ranking system would be based upon the importance of a standard to each of the many types of ships and drilling rigs, in proportion to the current or project mix of such products on order in U.S. Shipyards. Even so, the ranking would not represent the interests of any particular shipyard, because each yard has a comparatively limited product mix at any one time.

It became apparent that the best ranking strategy is to group the standards in accordance with the scopes of the F-25 technical subcommittees, and allow the members of the subcommittees to use their expertise within the technical sub-fields to survey

*For details of the screening procedure, see Section 4 of Appendix B: Cataloging Guide.

the existing foreign and domestic standards and establish their own priorities. This course of action was discussed with and agreed upon by BIW; the Pilot Phase result is a listing of standards, grouped by the scopes of the F-25 technical subcommittees, which appears here as Appendix D. This grouping is necessarily tentative, as the subcommittees are new and their scopes not yet completely defined. In addition, it should be noted that this list is incomplete, and that standards will very likely be found for many areas not currently represented. However, the listing provides the subcommittees with a first look, and may well assist in the definition of the subcommittee scopes.

2.3 Design of the Catalog Data Processing System

The cataloging and screening data for 5,000 to 10,000 standards represents an immense manual processing job; hence, a computerized system has been designed to store the necessary data and print it out in the proper formats. This system is relatively simple for a computer system; it need only accept and store data, sort it, and print it out in the required formats. Figure 2-3 is a block diagram of the system. The details of the system are described in Appendix C - EDP System Specifications, which is suitable for guiding the programming effort for the system. This specification was designed to reflect the standards and preferences of the BIW EDP Department; however, it could readily be adapted to those of another computer site.

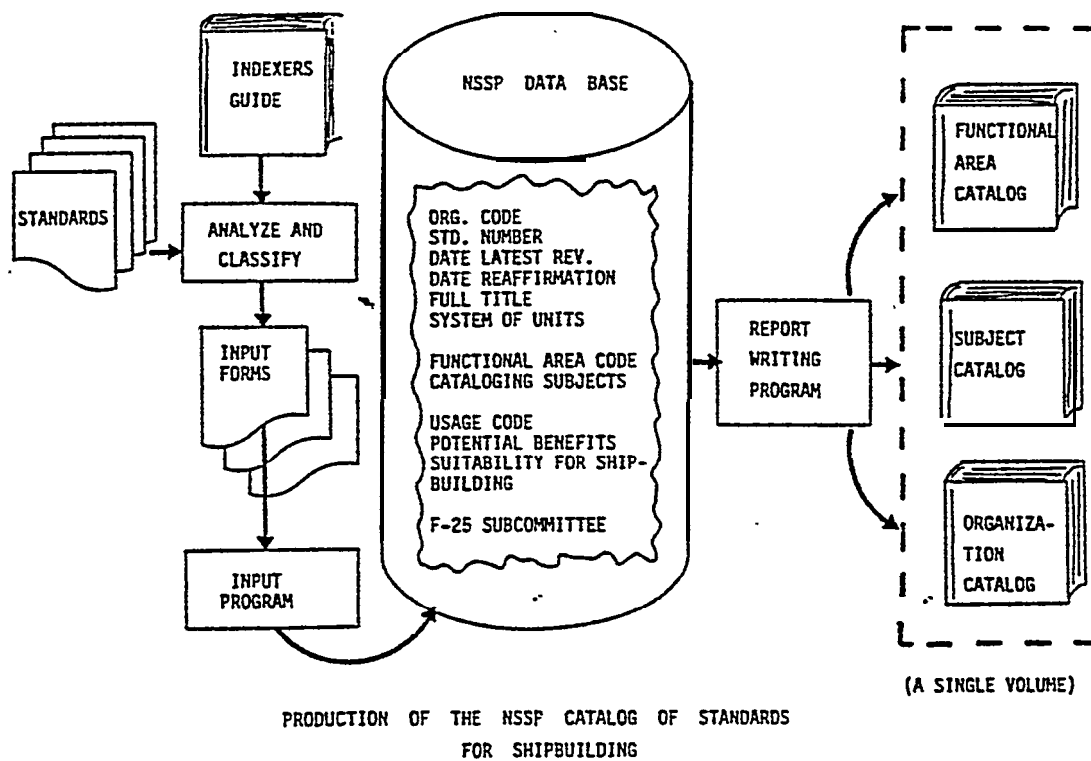


FIGURE 2-3:
DIAGRAM OF CATALOG DATA PROCESSING SYSTEM

3.0 PILOT PHASE PROCESSING OF STANDARDS

The Pilot Phase processing of standards was a testing ground for the cataloging systems, the Production Phase processing procedures, and also provided a set of 460 screened and cataloged standards for review by F-25. The following sections describe the Pilot Phase processing of domestic standards known to be used in the shipbuilding industry, other domestic standards, and foreign shipbuilding standards; and preliminary analyses of the results.

3.1 Domestic Standards Currently in Use by the Shipbuilding Industry

Standards are identified as being currently in use in two ways; by examining citations in the MarAd Standard Specification for Merchant Ship Construction, typical shipbuilding contracts and the requirements of the various regulatory bodies and by surveying shipyards. Although all of these activities were originally planned for the Pilot Phase of Task S-20, for various reasons BIW and CTP have decided to delay some of them, which will not take place during the Production Phase. In particular, examination of shipbuilding contracts at MarAd in Washington, D.C., will be accomplished early in the Production Phase. Also, the shipyard survey has been delayed in order to coordinate distribution with similar questionnaires from related tasks. The questionnaire has been prepared, and is given in Appendix F:

The major Pilot Phase work in this area was a listing and preliminary analysis of citations of standards by the MarAd Standard Specification for Merchant Ship Construction. The Standard Specification was examined in detail and each citation of a standard, whether by reference to a document or to a specific product "or equal", was identified. The resulting list of 1005 unique citations is included as Appendix E. This list will make possible further work of two principal kinds. These citations, together with those in actual contracts, identify the standards which are in use

by the shipbuilding industry today. It is evident from Figure 3-1, a chart showing the number of standards in each functional area, that some areas are heavily represented and some not at all; thus one task is to identify the conflicts, duplications, and vacancies that exist within this set of cited standards. In addition, these can be compared with the standards which are currently not used in shipbuilding, with the purpose of adopting useful standards or using appropriate standards to guide the creation of new shipbuilding standards.

3.2 Domestic Industrial Standards and Foreign Shipbuilding Standards: Pilot Phase Cataloging

The work described above dealt with citations of standards, preparatory to analyzing the standards themselves. Another portion of the Pilot Phase resulted in the cataloging of 460 standards from domestic and foreign sources, distributed as shown in Figure 3-2. These standards were screened and cataloged, testing the cataloging system and processing procedures. In addition, preliminary analyses of the coverage of the field of shipbuilding by this small set of standards were made.

First, Figure 3-3 shows the number of standards in each functional area category. Further, the standards were grouped according to the scopes of the F-25 subcommittees. The subcommittees are so new that in many cases their scopes have not been fully defined; reasonable assumptions were used where necessary. The resulting list is organized by subcommittee, subject category, and organization. A further sort by usage category was rejected at this stage because nearly all standards in this set are specifications; those of other usage can be identified by their titles. This listing, which is given in Appendix D, shows the range of standards to be dealt with by each subcommittee. Note that subject categories are likely to be small enough sets of standards that the technical subcommittees will be best able to deal with the problems of duplication, conflict, and vacancy on a case by case basis, without the constraint of a formal system.

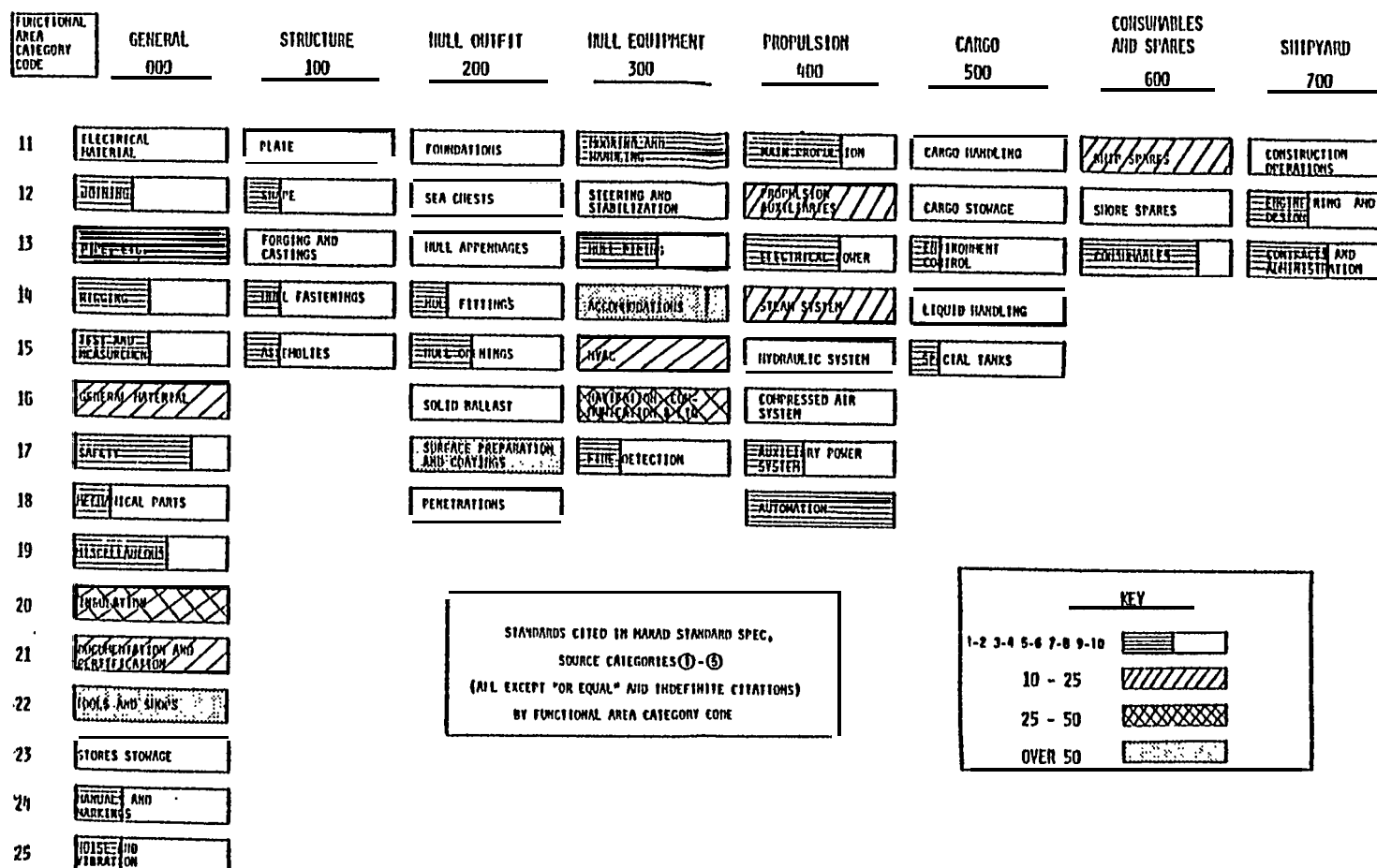
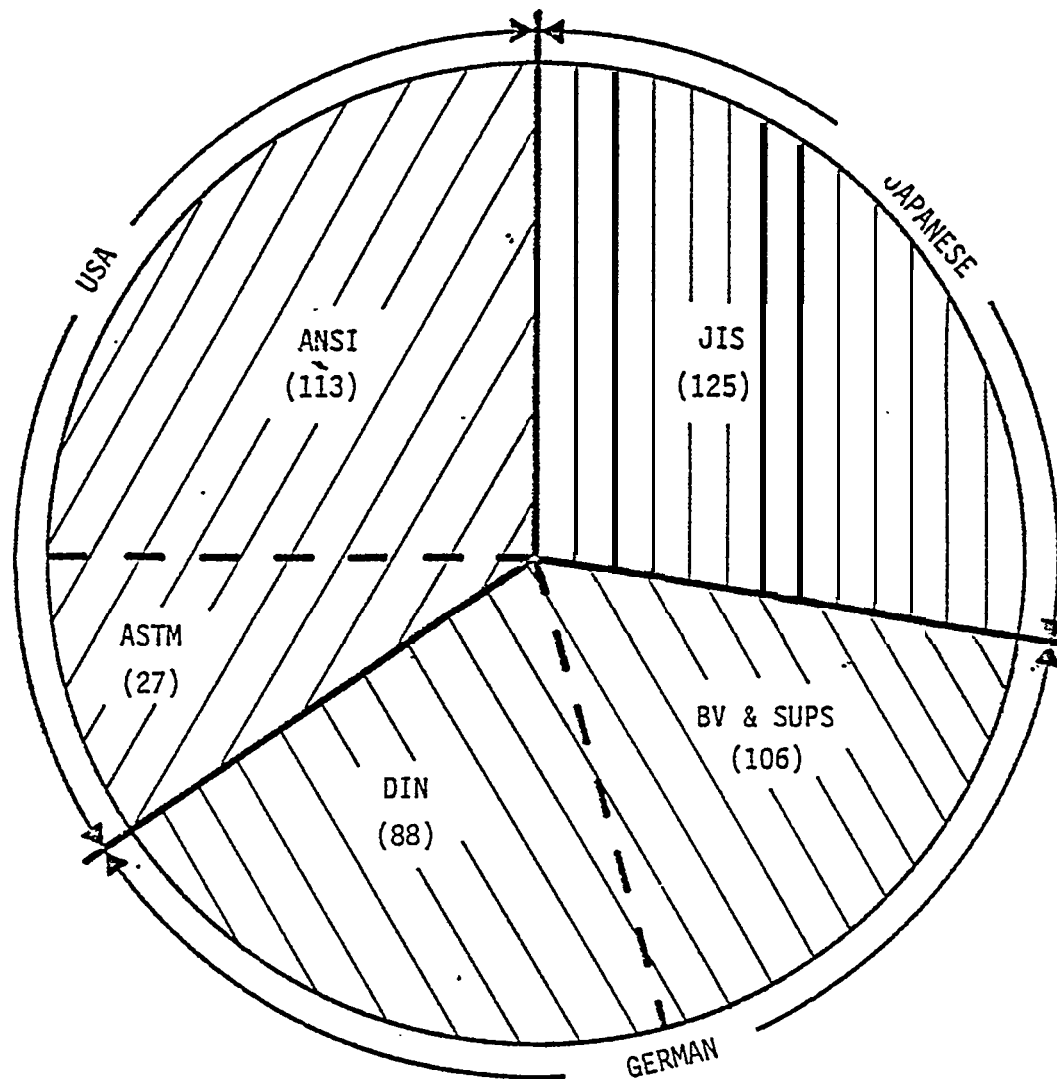


FIGURE 3-1: DISTRIBUTION OF STANDARDS CITED IN MARAD STANDARD SPECIFICATION

STANDARDS INDEX BY
ORIGINATING ORGANIZATION/GROUP
(460 STANDARDS PROCESSED)



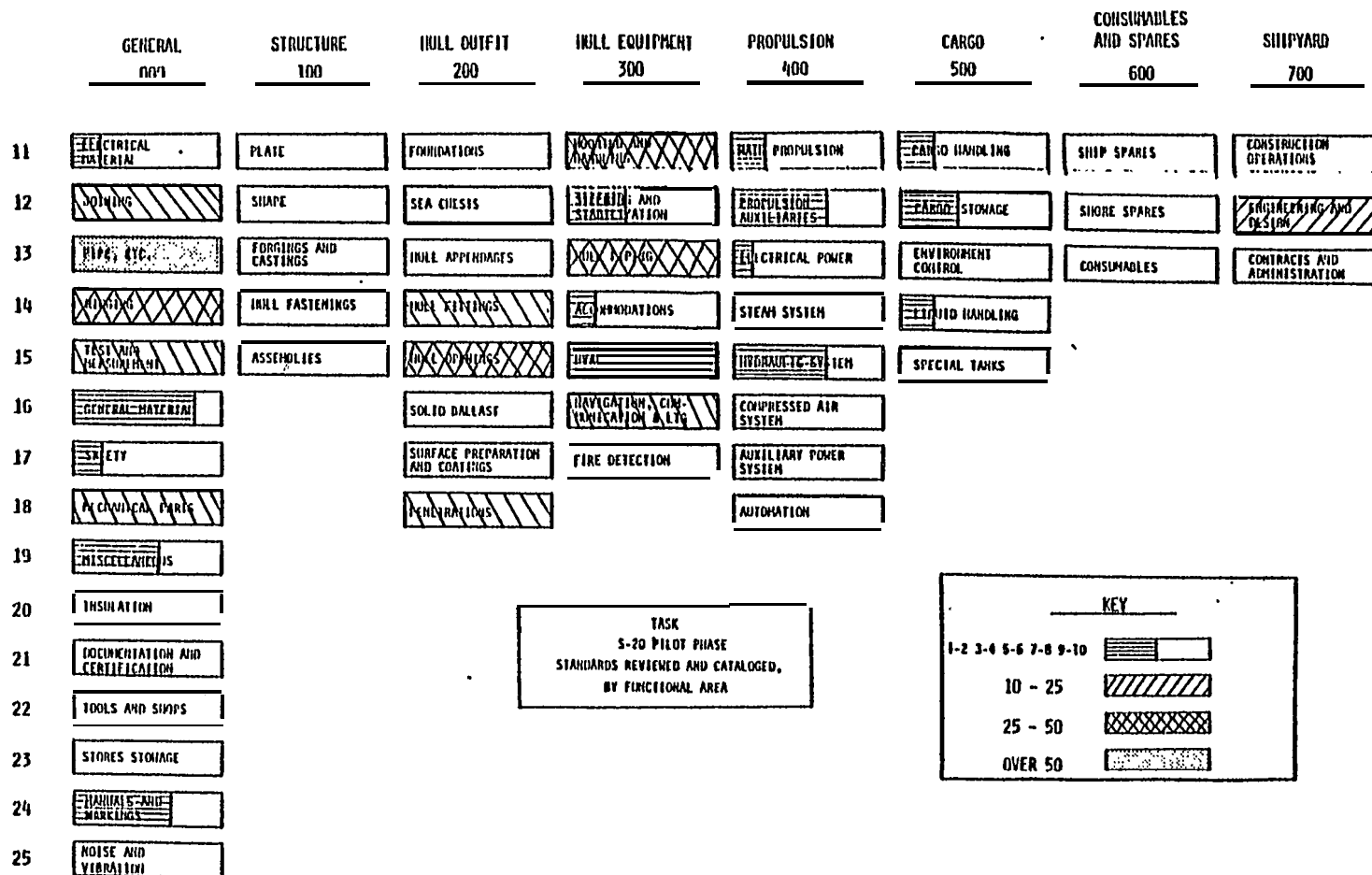


FIGURE 3-3: DISTRIBUTION OF STANDARDS PROCESSED DURING PILOT PHASE

4.0 PRODUCTION PHASE PROCESSING OF STANDARDS

4.1 Processing' Procedures

With the experience of the Pilot Phase processing a set of procedures for performing and managing the Production Phase processing of standards has been developed; these have been assembled in a Cataloging Guide, included here is Appendix B. Briefly, the project is to be staffed by a Project Leader, Project Librarian, and a number of Technical Analysts. The Technical Analysts are responsible for screening and cataloging 5,000 to 10,000 standards over the next six months. The Project Librarian is responsible for expediting the flow of standards to and from the Technical Analysts, maintaining proper records and log books, and generally making it possible for them to concentrate on the technical work. The Project Leader has overall responsibility for the work, including pre-screening and selecting standards for cataloging, overseeing necessary changes to the procedures, and quality assurance of the cataloging process.

This task begins with the prescreening and procurement of standards for review; and ends when the coding forms are delivered for key entry to the EDP system.

4.2 Producing the Catalog

Eventually production of the catalog will-be performed by the EDP system, which will sort, format, and print out the data gathered during the screening and cataloging effort. Manually prepared listings of standards, structured specifically for SP-6 and F-25, will be issued in lieu of the full catalog until the EDP system is fully operational.

The Catalog will grow rapidly during the next six months, and will remain in minor flux thereafter, as standards are written, revised, and deleted. However, the rate of change should be low enough that yearly revisions supplemented by quarterly notices will keep essential information in the hands of shipbuilding users.

5.0 SUMMARY OF APPENDICES

The appendices are documents prepared in the course of Pilot Phase work; the following brief descriptions explain the purpose of each.

5.1 User's Guide to the NSSP Catalog of Standards for Shipbuilding

The User's Guide will be a part of the finished Catalog. It explains the organization of the Catalog, the three indexing Systems, and the meanings of each entry.

5.2 Cataloging Guide for Task S-20 Production Phase

This describes the planned procedures for screening and cataloging the 5,000 to 10,000 Production Phase standards, including the flow of work among members of the project team.

5.3 System Specification for Computerized Catalog

This document provides computer analysts and programmers with the information necessary to perform detailed design and development leading to the ultimate implementation of the system, which will store, sort, and print the necessary data for the Catalog.

5.4 Recommended F-25 Subcommittee Groupings of Standards Processed During Pilot Phase

The standards in each subcommittee-related group are further organized by subject category. Issuing organization designation, dates of revision and reaffirmation, and title are listed for each standard processed during the Pilot Phase.

5.5 List of Standards Cited in Maritime Administration Standard Specification for Merchant Ship Construction

This document summarizes the citations of standards by the MarAd Standard Specification, listing 1005 unique citations.

A chart showing the distribution of citations by functional area category is included.

5.6 Shipyard Survey Questionnaire

This questionnaire will be used to solicit information from U.S. Shipyards about their current use of standards.

APPENDIX A

USER'S GUIDE TO THE NSSP CATALOG
OF STANDARDS FOR SHIPBUILDING

NATIONAL SHIPBUILDING STANDARDS PROGRAM
CATALOG OF STANDARDS FOR SHIPBUILDING

USER'S GUIDE

Prepared Under:

Task S-20 - A Compendium of Shipbuilding Standards

For:

Bath Iron Works Corporation
Bath, Maine

By:

Corporate-Tech Planning, Inc.
Portsmouth, New Hampshire

September 25, 1978

NSSP CATALOG OF STANDARDS FOR SHIPBUILDING
USER'S GUIDE

The National Shipbuilding Standards Program Catalog of Standards contains 460¹ standards of use in shipbuilding, organized in three ways: ship functional area, subject, and issuing organization. Standards cited here come from domestic and foreign sources, including some not ordinarily associated with shipbuilding. All have been screened for potential use in shipbuilding. This User's Guide tells how to find standards in the catalog, and what information is presented for each.

Each part of the catalog offers a different way of locating standards. Used together, they permit all standards dealing with a given ship functional area or shipbuilding subject to be readily located.

Arrangement of Contents

This User's Guide is followed by three Tables of Contents, one for each part of the catalog.

Functional Area

Each standard is listed once under a Functional Area Category, which are sequenced numerically by Functional Area Category Code (FACC). Standards dealing with related subjects are thus grouped together. For instance, FACC 414 - Steam Systems includes boilers, all steam piping systems, drain systems, condensers, and feedwater systems. Thus, all related standards will be readily found.

Some standards apply to several functional area categories. These are grouped under general FACC's. For instance, a standard

¹To be revised as catalog grows, volume quoted as of 1 October 1978.

dealing with pipe may apply to many functional systems other than steam, and so appear under FACC 013 - ~~Piping, Pumps, and Related Fittings~~. A standard for main feed pumps, however, would apply only to steam systems, and so is listed under that FACC. For best results, the user should check both the specific FACC and such general FACC'S as may apply.

The FACC'S are organized into eight major groups, which have fifty-five individual categories:

- 000 - General
- 100 - Structure
- 200 - Hull Outfit
- 300 - Hull Equipment
- 400 - Propulsion Equipment
- 500 - Cargo Outfit and Equipment
- 600 - Consumables and Spares
- 700 - Shipyard

A detailed list of FACC's is found in Figure 1 and the Functional Area Table of Contents.

Subject

When standards are sought by class of material or service, the subject listing is recommended. Each standard is listed under one, two, or three subject categories. For instance, standards dealing with plastic pipe appear under ~~Plastic Pipe~~ and Pipe, Plastic, in order to facilitate searches for standards describing various kinds of pipe as well as various uses of plastics. However, where several terms apply to the same item, such as "light" and "window", or "Padeye", and "eyeplate", generally the standard is listed under only one. A quick scan of the entire Subject Table of Contents is recommended, to provide synonymous and related subject categories.

	GENERAL 000	STRUCTURE 100	HULL OUTFIT 200	HULL EQUIPMENT 300	PROPULSION 400	CARGO 500	CONSUMABLES AND SPARES 600	SHIPYARD 700
11	ELECTRICAL MATERIAL	PLATE	FOUNDATIONS	MOORING AND HANDLING	MAIN PROPULSION	CARGO HANDLING	SHIP SPARES	CONSTRUCTION OPERATIONS
12	JOINING	SHAPE	SEA CHESTS	STEERING AND STABILIZATION	PROPULSION AUXILIARIES	CARGO STORAGE	SHORE SPARES	ENGINEERING AND DESIGN
13	PIPE, ETC.	FORGINGS AND CASTINGS	HULL APPENDAGES	HULL PIPING	ELECTRICAL POWER	ENVIRONMENT CONTROL	CONSUMABLES	CONTRACTS AND ADMINISTRATION
14	RIGGING	HULL FASTENINGS	HULL FITTINGS	ACCOMMODATIONS	STEAM SYSTEM	LIQUID HANDLING		
15	TEST AND MEASUREMENT	ASSEMBLIES	HULL OPENINGS	HVAC	HYDRAULIC SYSTEM	SPECIAL TANKS		
16	GENERAL MATERIAL		SOLID DALLAST	NAVIGATION, COM- MUNICATION & LYG	COMPRESSED AIR SYSTEM			
17	SAFETY		SURFACE PREPARATION AND COATINGS	FIRE DETECTION	AUXILIARY POWER SYSTEM			
18	MECHANICAL PARTS		PENETRATIONS		AUTOMATION			
19	MISCELLANEOUS							
20	INSULATION							
21	DOCUMENTATION AND CERTIFICATION							
22	TOOLS AND SIMPS							
23	STORES STORAGE							
24	MATERIALS AND MARKINGS							
25	NOISE AND VIBRATION							

NATIONAL SHIPBUILDING STANDARDS PROGRAM
FUNCTIONAL AREA CATEGORY CODES

FIGURE 1: FUNCTIONAL AREA CATEGORIES

Organization

A listing by organization and standard number is also provided, for use in locating standards when the number is known, in determining the functional area assignment of a given standard, or determining the representation of a particular organization.

Entries

The same information is presented in each part of the catalog, although the entries are organized slightly differently. Table 1 shows the information presented in each entry.

<u>ORGANIZATION CODE:</u>	AST (American Society for Testing and Materials)
<u>NUMBER:</u>	D2153
<u>LATEST REVISION:</u>	1967
<u>LATEST REAFFIRMATION:</u>	1971
<u>TITLE:</u>	Calculated Stress in Plastic Pipe Under Internal Pressure
<u>USAGE:</u>	2 (Design)
<u>SYSTEM OF UNITS:</u>	E (English)

TABLE 1:
INFORMATION FIELDS OF CATALOG ENTRIES

Organization Code is a three letter abbreviation for the organization responsible for maintaining the standard. The abbreviations used here are those recommended by the National Bureau of Standards².

²William Slattery, ed., An Index of U.S. Voluntary Engineering Standards, National Bureau of Standards Special Publication 329, Pages V-XV.

Number is the number assigned to the standard by its organization. Where a date code has been included as the last two digits, these have been removed to avoid duplication with the next fields.

Latest Revision is the year in which the standard was last revised by its organization.

Latest Reaffirmation is the year in which the standard was last reaffirmed by its organization. Note that when the most recent action was revision, no date appears for reaffirmation.

Title is the complete title.

Usage is a one digit code as follows:

- 1 - The standard establishes definitions or classifications.
- 2 - The standard is used primarily in design activities.
- 3 - The standard is used primarily in production operations.
- 4 - The standard is used primarily in test and/or inspection activities.
- 5 - The standard defines limits or boundaries (specifications) on the characteristics of materials, items, system, or services.

System of Units is a one letter code as follows:

Feedback Requested

The purpose of this catalog is to facilitate the user's work by making it easy to locate pertinent standards. To that end, constructive comments and suggestions are sincerely encouraged. These should be directed to:

MarAd Program Manager
Bath Iron Works Corporation
700 Washington Street
Bath, Maine 04530

Note: In the following specimen Tables of Contents, the Page Number column has been replaced by a column showing the number of standards processed in each category during the Pilot Phase of Task S-20.

FUNCTIONAL AREA TABLE OF CONTENTS

<u>FACC</u>	<u>CONTENTS</u>	<u>NO. OF STANDARDS*</u>
000 -	<u>GENERAL: STANDARDS WHICH APPLY TO NO SINGLE OTHER FACC</u>	<u>255</u>
011 -	Electrical Material and Related Fittings cable, cable hangers, clips, motors, controllers	2
012 -	Fasteners and Joining Processes nuts, bolts, glue, welding, rivets, etc.	14
013 -	Piping, Pumps, and Related Fittings general use pumps pipe fittings, valves, hose, tubing except hydraulic scuppers and drains pipe hangers gaskets for pipe joints and fittings manual remote operating gear (automatic remote operating gear - see 418)	161
014 -	Rigging and Lifting Gear rope, chain, blocks, booms, fittings, stoppers, padeyes Does not include anchor chain (311), cargo lashing chain (512), parts retaining chain (jack chains) (018)	37
015 -	Tests, Trials, and Measuring Equipment and Procedures	11
016 -	General Material Characteristics composition, strength, color, roughness, etc.	7
017 -	Safety (Both Shipboard and Shipyard)	1
018 -	Miscellaneous Mechanical Parts springs, rings, retaining chains, roller chains gears, sprockets	12
019 -	Miscellaneous	5
020 -	Insulation, Thermal and Acoustic and Lagging Does not include LNG cargo insulation	0
021 -	Documentation and Certification regulatory requirements	0
022 -	Tools and Workshops Does not include special tools	0
023 -	Stowage bins racks, shelves lockers	0
024 -	Instruction Books, Manuals, and Markings wall mounted charts and plans, nameboards, etc. draft marks Does not include marking of specific items, such as plate, pipe, cable (see appropriate categories)	5
025 -	Noise and Vibration	0

*This will be Page Number Column in final catalog.

FUNCTIONAL AREA TABLE OF CONTENTS (Con't)

<u>FACC</u>	<u>CONTENTS</u>	<u>NO. OF STANDARDS</u>
100 -	<u>STRUCTURE</u>	<u>0</u>
111 -	Plate	0
112 -	Shape	0
113 -	Forgings and Castings	0
114 -	Hull Structure Joining and Fastenings	0
115 -	Structural Assemblies	0
200 -	<u>HULL OUTFIT</u>	<u>82</u>
211 -	Foundations	0
212 -	Sea Chests	0
213 -	Underwater Appendages bilge keels, fenders, guards, struts, stern tubes, fairwaters, etc. does not include rudders or stabilizing fins (see 312)	0
214 -	Hull Fittings masts, fixed spars breakwaters chain pipes ladders, life rails gratings, walkways awnings, canopies cathodic protection	28
215 -	Hull Openings hatches, covers, coamings, manholes, structural doors trunks scuttles lights and windows	41
216 -	Solid Ballast	0
217 -	Surface Preparation and Coatings paint and tank coatings abrasive blasting, pickling, pipe cleaning deck coverings	0
218 -	Pipe and Cable Penetrations kick pipes	13

FUNCTIONAL AREA TABLE OF CONTENTS (Con't)

<u>FACC</u>	<u>CONTENTS</u>	<u>NO. OF STANDARD S</u>
300 -	<u>HULL EQUIPMENT</u>	<u>86</u>
311 -	Deck Equipment	27
	stores handling gear, portable ramps	
	anchors and ground tackle	
	windlasses, capstans, and winches	
	mooring, warping, towing gear	
	bitts, cleats, chocks	
	boats and handling gear	
312	Steering and Stabilizing Systems	4
313	Hull Piping (including fuel oil)	29
	freshwater, distilling, ballast, fire main, flushing	
	ship's fuel oil filling and transfer, tank heating,	
	steaming and cleaning	
	garbage chute.	
	Includes sounding tubes, tank level gages, air escapes,	
	and overflows	
	Does not include liquid cargo systems (514) or general	
	piping material (013)	
314	Accommodations and Steward's Outfit	1
	joiner bulkheads, partitions, joiner doors	
	furniture, service appliances and equipment	
315	Heating, Ventilation, Air Conditions, and Refrigeration Systems	10
	Includes ship's service and cargo HVAC and refrigeration	
	except f-or cargo environmental control systems (513)	
	substantially different from ship's service equipment	
	(such as LNG reliquification equipment)	
316	Navigation, Communication, and Lighting	15
	interior and exterior communications	
	announcing, recording and telephone systems	
	alarms and indicating systems (other than fire	
	detection, see 317 or machinery alarms, see 418)	
	engine order telegraphs	
	voice tubes and pneumatic message tubes	
	lighting fixtures	
317	Fire Detection and Chemical Extinguishing Systems	0

FUNCTIONAL AREA TABLE OF CONTENTS (Con't)

<u>FACC</u>	<u>CONTENTS</u>	<u>NO. OF STANDARDS</u>
400.	<u>PROPULSION EQUIPMENT</u>	<u>13</u>
411	Main Propulsion Equipment	1
	main propulsion engines, turbines, and reduction gears	
	main shafting	
	main propulsion shaft bearings, seals, and stuffing boxes	
	main propellers	
	main condensers and air ejectors	
412	Main Propulsion Auxiliaries	
	propulsion machinery cooling water systems	
	uptakes and smokestacks	
	main propulsion air supply	
	propulsion machinery handling equipment	
	propulsion machinery lubricating and cooling oil systems	
	propulsion fuel oil service system	
	gageboards	
413	Electrical Power and Distribution	1
	switchboards, ships service generator sets, emergency	
	and auxiliary generator sets	
	Does not include wire, wireways, racks, and clips (see 011)	
414	Steam Systems	0
	steam generators (boilers)	
	main steam system	
	reduced pressure auxiliary systems	
	condensate and low pressure feed systems	
	high pressure feed systems	
	drains collecting systems	
415	Hydraulic Systems	5
416	Compressed Air Systems	0
	Does not include pneumatic remote sensing and	
	control equipment (see 418)	
417	Auxiliary Power Systems	0
	bow thruster	
	auxiliary power oil and vent piping systems	
	auxiliary power water cooling systems	
418	Propulsion Automation Remote Sensing and Control	0
	alarms	

FUNCTIONAL AREA TABLE Of CONTENTS (Con' t)

<u>FACC</u>	<u>CONTENTS</u>	<u>NO. OF STANDARDS</u>
500 -	<u>CARGO OUTFIT AND EQUIPMENT</u>	<u>6</u>
511 -	Mechanical Cargo Handling	1
512 -	Cargo Access and Stowage	3
513	Cargo Environmental Control and Instrumentation (unusual equipment only; for usual HVAC and refrigeration, see 315)	0
514 -	Liquid Cargo Handling	2
515 -	Cargo Tanks and Containment (where separate from ship's structure)	0
600 -	<u>CONSUMABLES AND SPARES</u>	<u>0</u>
611 -	On-Board Spares	0
612 -	Shore-Based Spares	0
613 -	Consumable Supplies	0
	fuel	
	lube oil	
	gases	
700 -	<u>SHIPYARD</u>	<u>18</u>
711 -	Construction Operations	0
712 -	Engineering and Design general characteristics	18
713 -	Contracts and Administration purchasing, supply	0

SUBJECT TABLE OF CONTENTS

<u>SUBJECT</u>	<u>NO. OF STANDARDS*</u>	<u>SUBJECT</u>	<u>NO. OF STANDARDS</u>
Acoustical Terminology		Container, Cargo	1
Aluminum		Conveyor	1
Anchor and Fittings		Coupling, Fire Hose	1
Automatic Control Termin.		Coupling, Hose	1
Ball Bearing		Crane	1
Bearing		Cylindrical Part, Fit	1
Bending, Pipe and Tube		Derrick	1
Bitt, Bollard, Cleat		Derrick Fittings	1
Block		Door	8
Bolt		Door Fittings	2
Boom		Drain, Floor	1
Boom Fittings		Drain, Roof	1
Buzzer		Drain Fittings	7
Cable Hanger		Drawing Standards	12
Canvas		Duct, Air	1
Cargo Hook Swivel		Dumbwaiter and Elevator	1
Cargo Lashing		Engine Order Telegraph	1
Cement, Plastic Pipe . .		Fairlead	8
Chain, General Purpose		Fastener Terminology	1
Chain, Lashing		Fire Fighting Fittings	6
Chain, Retaining		Fit, Cylindrical Parts	1
Chain, Roller		Flags and Fittings	2
Chock	6	Flange	33
Cleat	2	Flashlight	1
Clinometer	1	Floodlight	1
Control Terminology	3	Fuel Line Gasket	1

*This will be Page Number column in final catalog.

SUBJECT TABLE OF CONTENTS (Con't)

page two

<u>SUBJECT</u>	<u>NO. OF STANDARDS</u>	<u>SUBJECT</u>	<u>NO. OF STANDARDS</u>
Gasket, Fuel Line	1	Lighting	3
Gasket, Manhole Cover	1	Lock Washer	1
Gasket, Pipe Flange	6	Lubricating Fittings	2
Gear	4	Manhole Handhole, & , Tk Clng Hole	7
Generator	1	Measurement, Acoustic	3
Globe, Indicator Lamp	1	Measurement, Electric	1
Gooseneck Bracket	3	Measurement, Flow	1
Handhole, Manhole & Tk Clng Hole	7	Measurement, Level	1
Handrail and Stanchion	5	Measurement, Pressure & Vac.	2
Hanger, Electric Cable	1	Measurement, Shock and Vib.	2
Hanger, Pipe	13	Microfilm Reel	1
Hanger, Pipe and Cable	1	Name Plate	4
Hanger Parts, Pipe	3	Name Plate Holder	1
Hatch	1	Nut	2
Hatch Coaming	1	Padeye	4
Hatch Cover	2	Penetration, Pipe	10
Hatch Cover Wrench	1	Pipe, Metal	13
Hatch Fittings	9	Pipe, Plastic	18
Hoist	1	Pipe and Cable Hanger	1
Hook Swivel	1	Pipe Bending	5
Hose Coupling	1	Pipe Cap Wrench	1
Hydraulic Fluid	1	Pipe Fittings, Metal	25
Hydraulic Tubing and Ftgs.	4	Pipe Fittings, plastic	3
Indicator Lamp Globe	1	Pipe Flange	33
Instruction Plate	1	Pipe Flange Gasket	5
Insulated Tube	1	Pipe Hanger	13
Ladder	22	Pipe Hanger Parts	3

<u>SUBJECT</u>	<u>NO. OF STANDARDS</u>	<u>SUBJECT</u>	<u>NO. OF STANDARDS</u>
Pipe Thread	1	Shock and Vibration	1
Pipe Welding	4	Signal Lamp	1
Piping System Design	2	Sounding Pipe and Fittings	7
Piping System Marking	1	Speaking Tube	1
Plastic	6	Spring	1
Plastic Pipe	18	Sprocket, Roller Chain	1
Plastic Pipe Cement	1	Steering Fittings	4
Platform, Pilot	1	Surface Texture	4
Plumbing	9	Swivel, Cargo Hook	1
Radio	3	Swivel Fittings	1
Reel, Mooring Wire Rope	1	Tailshaft	7
Refrigeration	5	Terminology, Automatic Cent.	1
Rivet	2	Terminology, Fastener	1
Rivet Cap	1	Thread, Pipe	4
Rope, Fiber	2	Thread, Screw	5
Rope, Wire	2	Tolerances, Fit of Cyl. Parts	8
Rope End Fittings	2	Tolerancing	1
S-Ring	1	Topping Lift Fittings	1
Safety Near Openings	1	Tubing	5
Screw	3	Ullage Trunk	1
Screw Thread	5	Uptake	8
Scupper	6	Valve	14
Scuttle, Rope	1	Valve Operating Gear	4
Shaft	1	Ventilator	4
Shackle, Mooring Buoy	1	Washer, Lock	1

SUBJECT TABLE OF CONTENTS (Con't)

page four

<u>SUBJECT</u>	<u>NO. OF STANDARDS</u>
Water Cooler	1
Welding , Pipe	1
Whistle	1
Window and Light (and covers)	11
Wrench	2

ORGANIZATION TABLE OF CONTENTS

<u>CODE</u>	<u>ORGANIZATION</u>	<u>NO. OF STANDARDS*</u>
ANS	American National Standards Institute	113
AST	American Society for Testing and Materials	27
BV	Bremer Vulkan and Suppliers	106
DIN	German National Standards Institute	88
JIS	Japanese Standards Association	125
NEM	National Electrical Manufacturers Association	1

*This will be Page Number column in final catalog.

SAMPLE CATALOG PAGES

- Functional Area Listing
- Subject Listing
- Organization Listing

-NSSP STANDARD DS CATALOG-
FUNCTIONAL AREA CATEGORY LIST

1 JE NO. 004
DATE: 780914

AC 013 - PIPING, PUMPS, AND RELATED FITTINGS

USAGE	ORG CODE	NO. OF STD.	REV. YR.	REAFRM. YR.	TITLE	SYSTEM OF UNITS
1	ANS	A21.12	71		2 & 2½ INCH CENTRIFUGALLY CAST IRON PIPE	E
1	ANS	B2.2	68		DRYSEAL PIPE THREADS	E
1	ANS	B16.26	75		CAST COPPER ALLOY FITTINGS FOR COPPER TUBES	E
2	AST	D2153	67	71	CALCULATED STRESS IN PLASTIC PIPE UNDER INTERNAL PRESSURE	E
5	DIN	86071	70	73	FULL FACE GASKETS FOR FLANGES NOMINAL PRESSURES 6 TO 16 ATA	M
5	JIS	F3022	71	77	SHIPS'U-BOLTS FOR STEEL PIPE (HANGERS)	M
5	JIS	F3021	68	77	SHIPS'STEEL PIPE BANDS (HANGERS)	M

FAC 014 - RIGGING AND LIFTING GEAR

USAGE	ORG CODE	NO. OF STDS.	REV. YR.	REAFRM. YR.	TITLE	SYSTEM OF UNITS
5	ANS	B30.20.0	67		OVERHEAD AND GANTRY CRANES, SAFETY CODE	E
5	DIN	82018	71		CARGO HOOK SWIVELS	M

-NSSP STANDARDS CATALOG-
SUBJECT CATALOG

PAGE NO. 082
DATE: 780914

SUBJECT

USAGE	ORG. CODE	NO. OF STD.	REV. YR.	REAFRM. YR.	TITLE	SYSTEM OF UNITS	FAC
PIPE HANGER							
5	DIN	1592	67		HEAVY PIPE CLAMPS WITH PIPE TIGHTENING; SINGLE-ENDED	M	013
5	DIN	1593	67		HEAVY PIPE CLAMPS WITH PIPE TIGHTENING; DOUBLE-ENDED	M	013
5	DIN	3570	68		BOLT CLAMPS FOR PIPES WITH NOMINAL DIA METERS 20 TO 500	M	013
5	DIN	86016	73	74	PIPE CLAMPS OF STEEL FOR PIPES OF HARD PVC	M	013
5	JIS	F3021	68	77	SHIPS' STEEL PIPE BANDS (HANGERS)	M	013
PIPE HANGER PARTS							
5	JIS	F3022	71	77	SHIPS' U-BOLTS FOR STEEL PIPES	M	013
PIPE THREAD							
1	ANS	B2.1	68		PIPE THREADS EXCEPT DRYSEAL	E	013
1	ANS	B2.2	68		DRYSEAL PIPE THREADS	E	013
1	ANS	B2.4	74		HOSE COUPLING SCREW THREADS	E	013

-NSSP STANDARDS CATALOG-
ORGANIZATION AND NUMBER LIST

PAG. NO. 027
DATE : 780914

ORG. CODE	NO. OF STD.	REV. YR.	REAFRM. YR.	TITLE	FACC	USAGE	SYSTEM OF UNITS
JIS	F2314	76		WATERTIGHT SLIDING DOORS	215	5	M
JIS	F2315	68	77	INDICATORS FOR WATERTIGHT SLIDING DOORS	215	5	M
JIS	F2319	68	77	HATCH LOCKING BARS	215	5	M
JIS	F2320	69	75	OILTIGHT HATCH COVERS	215	5	M
JIS	F2326	65	77	HATCH CLEATS (SIMPLE TYPE)	215	5	
JIS	F2327	67	76	MARKING OF HATCH BOARDS	215	5	M
JIS	F2328	75		MARKING OF HATCHWAY BEAMS	215	5	M
JIS	F2329	75		SHIPS' SMALL SIZE MANHOLES	215	5	M
JIS	F2321	75		COVERS FOR TANK CLEANING HOLES	215	5	M

APPENDIX B

CATALOGING GUIDE

FOR TASK S-20 PRODUCTION PHASE

NATIONAL SHIPBUILDING STANDARDS PROGRAM

CATALOG OF STANDARDS FOR SHIPBUILDING

CATALOGING GUIDE

Prepared Under:

Task S-20 - A Compendium of Shipbuilding Standards

For:

Bath Iron Works Corporation
Bath, Maine

By:

Corporate-Tech Planning, Inc.
Portsmouth, New Hampshire

OCTOBER 12, 1978

NATIONAL SHIPBUILDING STANDARDS PROGRAM

CATALOGING GUIDE

1. INTRODUCTION
2. DESCRIPTION OF CATALOGING TASK
3. OVERVIEW OF PROCESSING PROCEDURE
4. DETAILED PROCESSING PROCEDURES
 - 4.1 Prescreen Standards (Project Leader)
 - 4.2 Record Reject Standards (Project Librarian)
 - 4.3 Preparation of Batch Control Sheet (Project Librarian)
 - 4.4 Preparation of Coding Forms (Project Librarian)
 - 4.5 Schedule Batch and Assign Technical Analyst (Project Leader)
 - 4.6 Log Schedule and Assignment Data (Project Librarian)
 - 4.7. Screen and Catalog Standards (Technical Analyst)
 - 4.8 Log Completion (Project Librarian)
 - 4.9 Review Coding Forms (Project Leader)
 - 4.10 Submit Coding Forms for Key Entry (Project Librarian)

APPENDIX A: Organization Codes

APPENDIX B: Functional Area Category Codes

APPENDIX C: Subject Cateogry List

NATIONAL SHIPBUILDING STANDARDS PROGRAM

CATALOGING GUIDE

1. INTRODUCTION

This Cataloging Guide describes procedures for screening and cataloging standards for inclusion in the NSSP Catalog of Standards for Shipbuilding, and also procedures for managing the work of a small team of technical analysts. It is addressed to the project leader, technical analysts, and librarian.

The NSSP Catalog of Standards for Shipbuilding is a tool developed to assist in the identification of existing standards which are applicable to the design and construction of merchant ships and other sea-going structures such as drilling rigs. Standards cited will come from foreign as well as domestic sources, and include some which are not ordinarily associated with shipbuilding. However, all will be screened for potential use to the marine industry as described in (4) below.¹

To meet the needs of users, the Catalog is organized by ship functional area the standard pertains to (e.g., steam systems), by principal subject(s) of the standards (e.g. valves), and by issuing organization. In addition, administration of the NSSP requires that standards be accessible by other means, which are made possible by inclusion of additional data during the screening and cataloging process.

2. DESCRIPTION OF CATALOGING TASK

The cataloging task includes locating standards, screening them for suitability, and preparing coding forms which will be

1. See the NSSP Catalog User's Guide for further description of the Catalog.

used to enter the data into the computerized catalog data base. Data required for the catalog will be recorded in the cataloging portion of the NSSP Cataloging and Screening Coding Form.

(See ⑥ & ⑦ , Figure 3-1) In addition to cataloging, the first processing of standards includes a preliminary evaluation of the potential benefits of a standard and the work needed to modify the standard for use by the shipbuilding industry. The results of the evaluation will be recorded in the Screening portion of the NSSP Cataloging and Screening Coding Form (See ⑧ through ⑪ , Figure 3-1).

The efficient and uniform preparation of the NSSP Cataloging and Screening Coding Form requires the interaction of three persons: the Project Leader, the Project Librarian and the Technical Analyst.

The Project Leader will:

- (1) Prescreen existing standards
- (2) Schedule and assign NSSP Cataloging and screening analysts
- (3) Review the completed NSSP Coding Forms
- (4) Enter the F-25 subcommittee assignment, and
- (5) Resolve all problems.

The Project Librarian will:

- (1) Prepare standards batch control sheets and maintain Project Control Logs
- (2) Maintain revision and issue control on project related documents
- (3) Initiate an NSSP Cataloging and Screening Coding Form for each selected standard (See ① through ⑤ , Figure 3-1) and
- (4) Submit the coding forms for key entry and monitor the key entry transaction listings.

The Technical Analyst will complete the Coding Form by determining:

- (1) The type of Standard

- (2) The functional area and
- (3) Subject categories as well as
- (4) The system of weights and measures used within the selected standard.

The Technical Analyst will also evaluate:

- (5) **The potential benefits of the standard to the shipbuilding industry and**
- (6) **The extent to which the Standard must be modified for shipbuilding use (see ⑥ through ⑬ , Figure 3-1).**

3. OVERVIEW OF PROCESSING PROCEDURE (See Figure 3-2)

The project leader, while screening existing standards and standards catalogs, will annotate whether the standard is rejected or selected for cataloging and screening. Both rejected and selected standards will be forwarded to the Project Librarian who will prepare project control log book entries (see Figures 3-3 and 3-4)1

The Project Librarian will also batch the selected standards into groups by issuing organization and prepare a standards Batch Control Sheet (SBCS) for each group (see Figure 3-5). The Project Librarian will reference the Source Code List (SCL) and record the three-letter organization code which has been assigned to each standards issuing organization (see Appendix A). The Project Librarian will then initiate an NSSP Cataloging and Screening Coding Form for each selected standard within a batch. The "initiation" process consists of filling out the first five data types on the Coding Form (see @ through @ Figure 3-1). After making the necessary control log entries, the Project Librarian will forward the batch of standards to the Project Leader who will resolve any problems annotated on the SBCS, schedule the batch for cataloging and screening, assign a Technical Analyst and return the batch to the project librarian.

The Project Librarian will make the necessary project control.

log entries and distribute the batch to the assigned Technical Analyst.

The Technical Analyst will obtain the latest issue of the Functional Area Category Code Listing (FACC) (see Appendix B) and the latest issue of the Subject Category Index Listing (SCIL) (see Appendix C) and complete blocks ⑥ through ⑬ on each NSSP Cataloging and Screening Coding form. The Technical Analyst will annotate the SBCS with comments whenever any problems are encountered. Upon completion of the batch, the Technical Analyst will record the completion date on the SBCS and return the batch to the Project Librarian.

The Project Librarian will make the necessary project **control** log book entries and forward the completed batch to the Project Leader for review.

The project Leader will review the completed forms, enter the F-25 subcommittee assignment, **resolve any problems* and return** the batch to the Project Librarian. The Project Librarian will then submit the batch for key entry.

Text continued after Figures 3-1 through 2-7.

*NOTE: The resolution of the problem by the Project Leader may result in a change to existing project documentation. The Project Librarian will maintain a document control log, revise all documents and issue copies of the latest revisions (See Figures 3-6 and 3-7) .

FIGURE 3-1

NSSP INDEXING AND SCREENING FORM

(12) ANALYST _____

(13) DATE _____

(1) <u>TRANSACTION TYPE</u>	(2) <u>ORG. CODE</u>	(3) <u>NUMBER OF STANDARD</u>	(4) <u>REV. YEAR</u>	(5) <u>REAFFIRM YEAR</u>	(6) <u>FUNCTIONAL AREA CODE</u>
1 - ADD 2 - CHANGE 3 - DELETE					
(8) <u>STANDARD TYPE</u>	(9) <u>POTENTIAL INDUSTRY-WIDE BENEFITS</u>	(10) <u>MODIFICATIONS REQUIRED FOR SHIPBUILDING USE</u>	(11) <u>SYSTEM OF UNITS</u>	(12) <u>F-25 SUBCOMMITTEE ASSIGNMENT</u>	
1-DEF & CLASS 2-DESIGN 3-PROD & OPR 4-TEST 5-SPEC	0-NONE 1-MARGINAL 2-MODERATE 3-GREAT	1-MAJOR 2-MINOR 3-NONE	M-METRIC/ST E-ENGLISH N-NOT APPLIC. U-UNKNOWN O-OTHER		

FULL TITLE OF STANDARD

(5)

SUBJECT CATEGORIES

(7)

1. _____

2. _____

3. _____

FIGURE 3-2 OVERVIEW OF
PROCESSING FLOW FOR THE
CREATION & CONTROL OF THE NSP STANDARDS CONTROL SHEET FORM

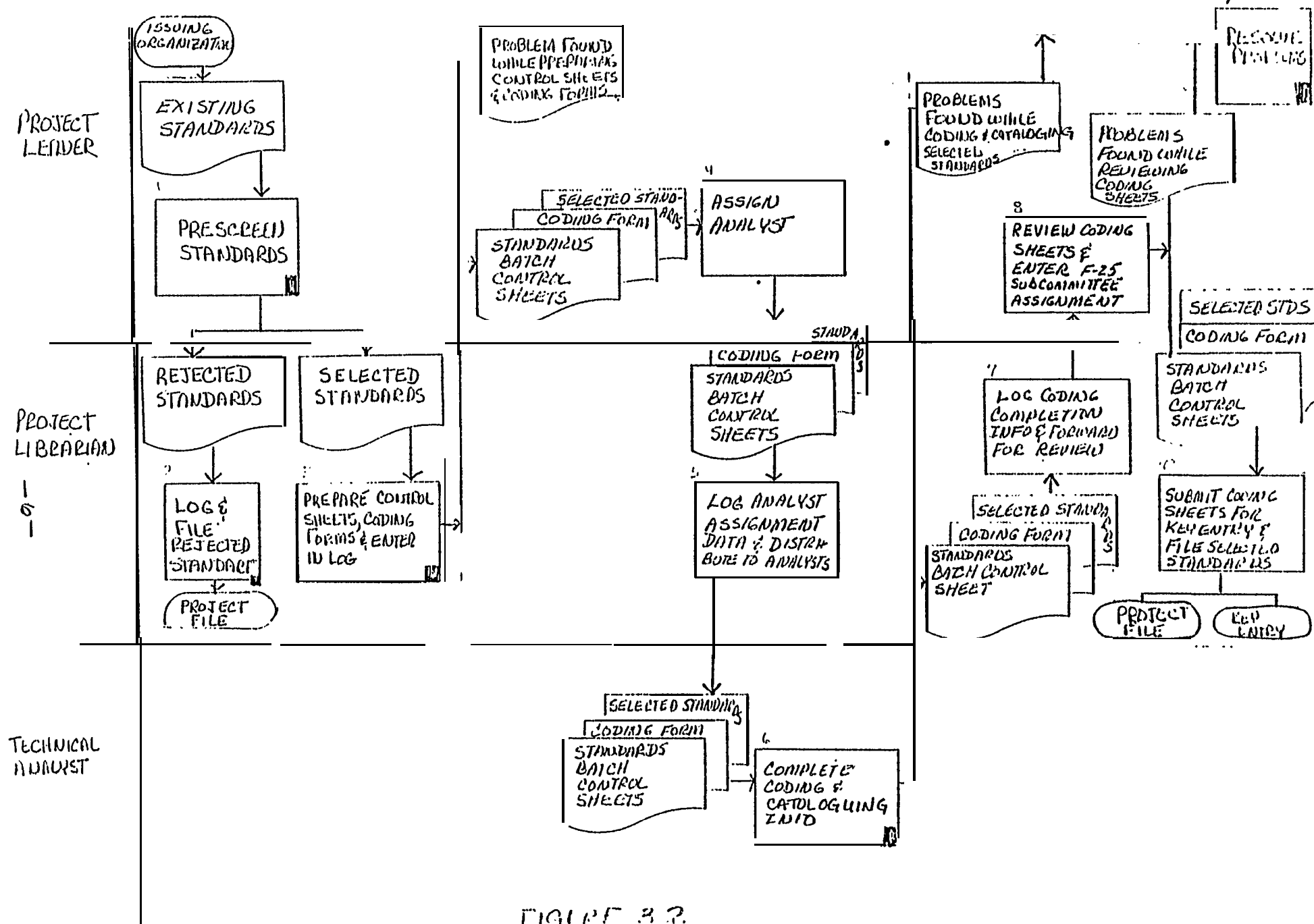


FIGURE 3-2

FIGURE 3-3

REJECTED STANDARDS PROTECT CONTROL LOG

REJECTED
CONTROL
NO

ISSUING ORGANIZATION

D
R

USED

NUMBER
REJECTED

Comments

FIGURE 3-4

100

STANDARDS BATCH CONTROL SHEET

COMMENTS

COMMENT NO	STD. NUMBER	COMMENT	RESOLUTION	
			DATE	ACTION
9	10	11	12	13

PROJECT CONTROL - DOCUMENTS REVISION CONTROL

[illegible]

FIGURE 3-7
PROTECT CONTROL - LISTINGS REVISION CONTROL

[illegible]

4. DETAILED PROCESSING PROCEDURES

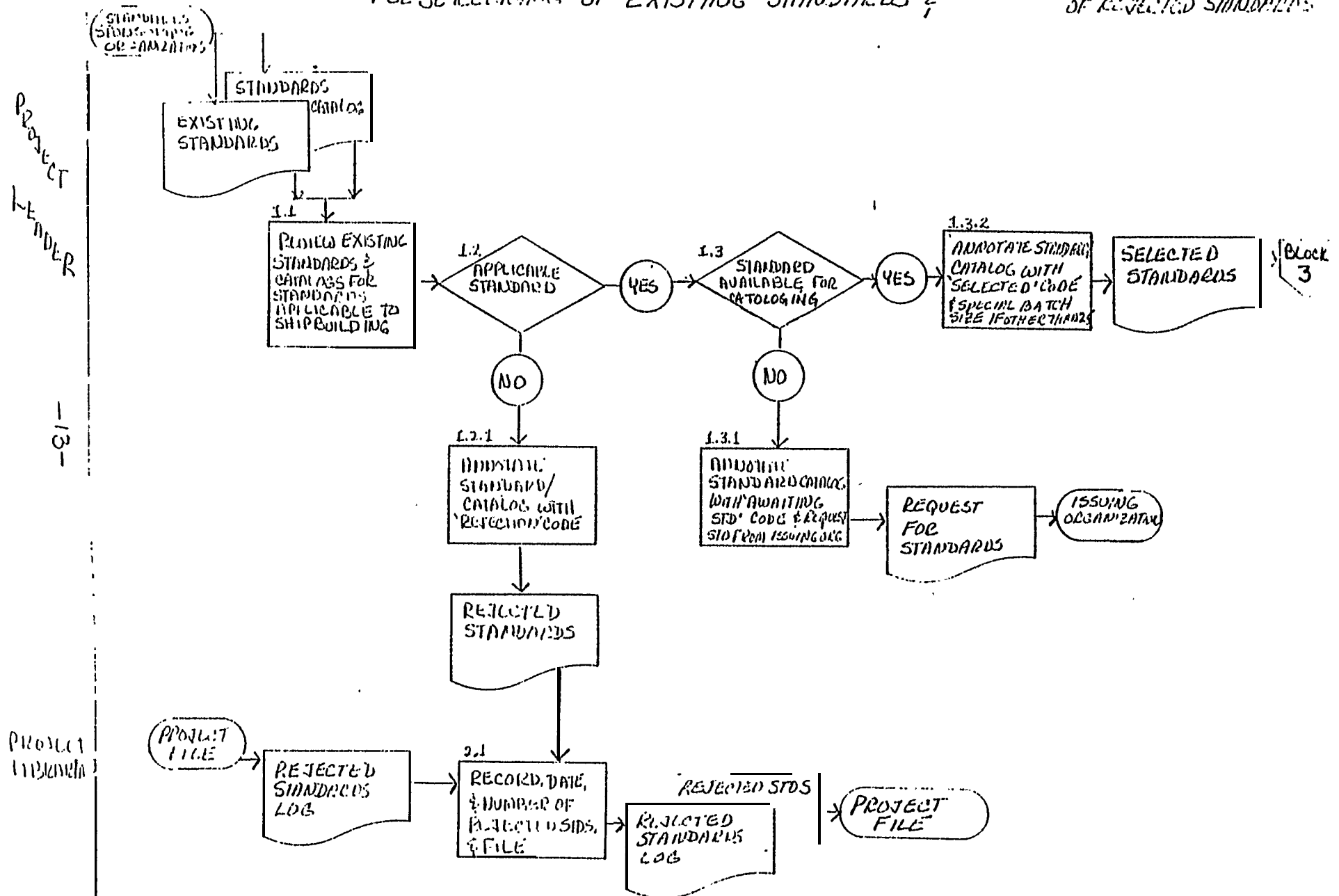
The following sections describe detailed procedures for the major cataloging activities. Note that these are proposed procedures; creative criticism and helpful suggestions are heartily encouraged.

4.1 Prescreening Standards (Project Leader)

The Prescreening of standards (see Figure 4-1) consists of the review of existing standards and standards catalogs in order to determine which standards have applicability to shipbuilding. A Reference Standards Catalog will be annotated by the Project Leader as to whether a particular standard was selected or rejected. If possible, the Project Leader will separate standards; annotate each group accordingly and forward the two groups to the Project Librarian. Whenever the Project Leader decides that the selected standards should be processed in a group batch size other than the standard batch size of 25 standards, the special batch size will be annotated on the selected standards and forwarded to the Project Librarian. If necessary, the Project Leader will contact standards sponsoring organizations to obtain copies of-selected standards.

Upon receiving a group of rejected standards (see Figure 4-1), the Project Librarian will obtain the Rejected Standards Project Control Log (see Figure 3-3) from the Project file, assign a rejection control number, record the standards issuing organization name, and the date the rejected standards were received from the Project Leader. The Project Librarian will count the number of standards rejected for each standards issuing organization and record the count. If the rejected standards are not to be filed alphabetically by issuing organization in the rejected standards file, the Project Librarian will record the planned location of the rejected standards in the comments section of the Rejected. Standards Project Control Log.

FIGURE 4-1
 PROCESSING FLOW FOR BLOCKS 1 & 2 OF FIGURE 3-2:
 OVERVIEW OF PROCESSING FLOW
 PRESCREENING OF EXISTING STANDARDS & OF REJECTED STANDARDS



4.3 Preparation of the Standards Batch Control Sheet (Project Librarian;

a. Separate Standards and Sequence

Upon receiving the selected standards (see Figures 4-2 and 4-3), Project Librarian will separate the standards into groups by issuing organization and then sort each group into numerical sequence.

b. Batch Selected Standards

If a special batch size has not been indicated on the selected standards by the Project Leader, the Project Librarian will batch each of the sets of standards into groups of 25 and attach a Standard Batch Control Sheet (see Figure 3-5) to each batch (e.g., if 62 standards were selected from one issuing organization, these 62 standards would result in 3 groups: 2 groups of 25 standards each and 1 group of 12 standards. Each group would have a Standards Batch Control Sheet attached). The number of selected standards **contained within each batch will then be recorded in (4), 'Quantity in Batch' block on the SBCS.** The date that the standards were received from the Project Leader **will be recorded in block (3) of the SBCS.**

c: Assign Source Code

The Source Code Listing (see Appendix A) will be removed from the Project File and will be used to determine which 3-letter organization code has been established for each standards issuing organizations.. The Source Code Listing is arranged in alphabetical order by issuing organization.

When the name of the issuing organization as it appears on the standard matches the name of an issuing organization in the Source Code Listing (SCL), the 3-letter Source Code appearing in the **SCL will be recorded in block (2) of the Standards Batch Control Sheet.**

d. No Match on Source Code.

If the Issuing organization name cannot be found in the SCL, block (2) of the SBCS will remain blank and the following entry will be made in Comments portion of the SBCS: '1' will be entered in block (9) , '-' will be entered in block (10) , and 'NAME NOT IN SCL' will be entered in block (11) .

e. Assign Project Control Number and Log

Once all the batches for a single issuing organization have been processed through the previous, step (assign Source Code), the Project Librarian will obtain the Selected Standards Project Control Log (SSPCL) from the project file (see Figure 3-4) and record the next number, in sequence, in block (1) of the SSPCL and in block 1 of the SBCS. The entries in blocks (2) , (3) and (4) of the SBCS will be recorded in blocks (2) , (3) and (4) of the SSPCL.

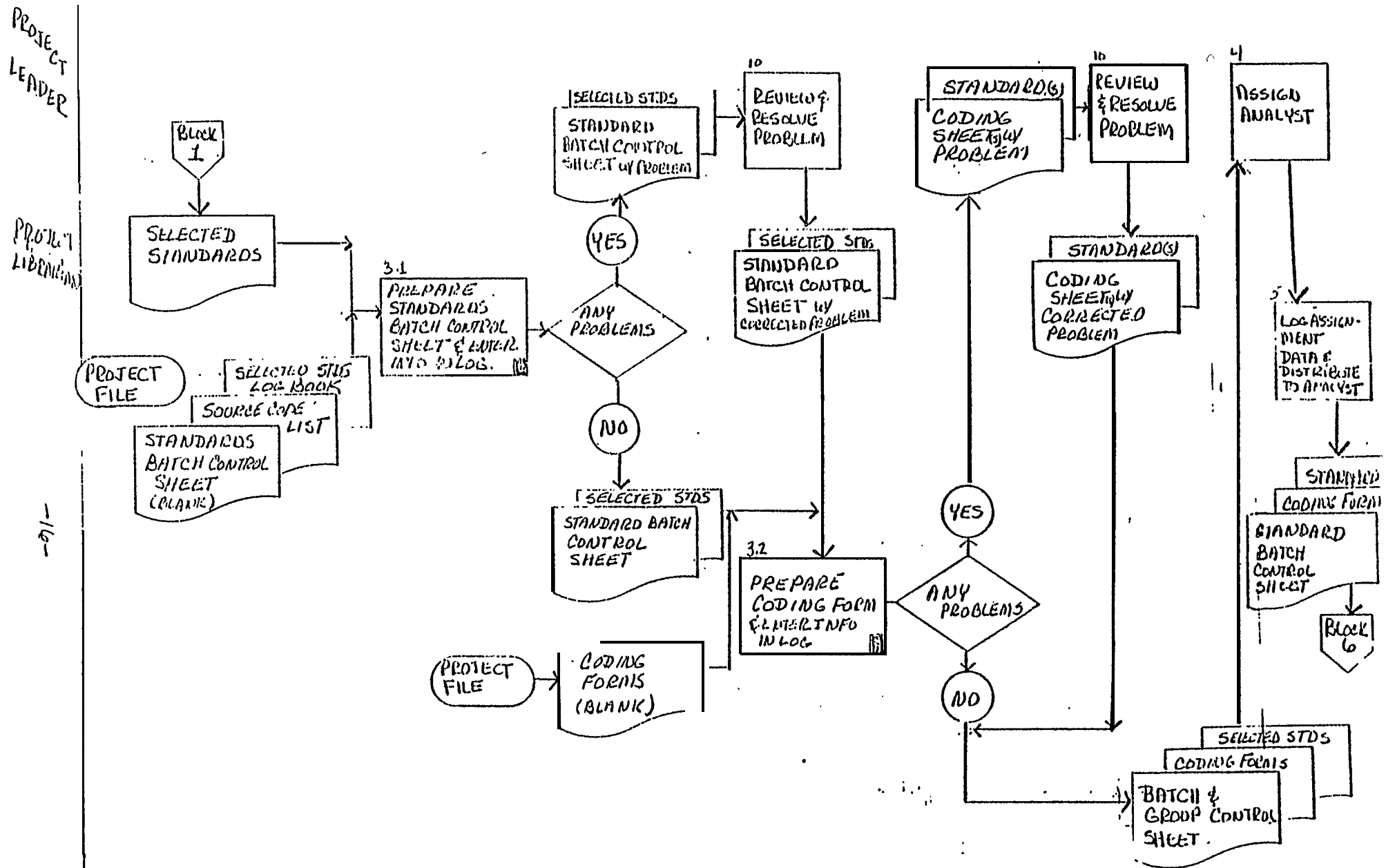
If the Comments section of the SBCS is blank, the following data will be entered in the SSPCL: The Current Date will be entered in block (6) and a '-' will be entered in block (5) . The Standards will then be forwarded for NSSP Coding form preparation.

f. Problem Handling

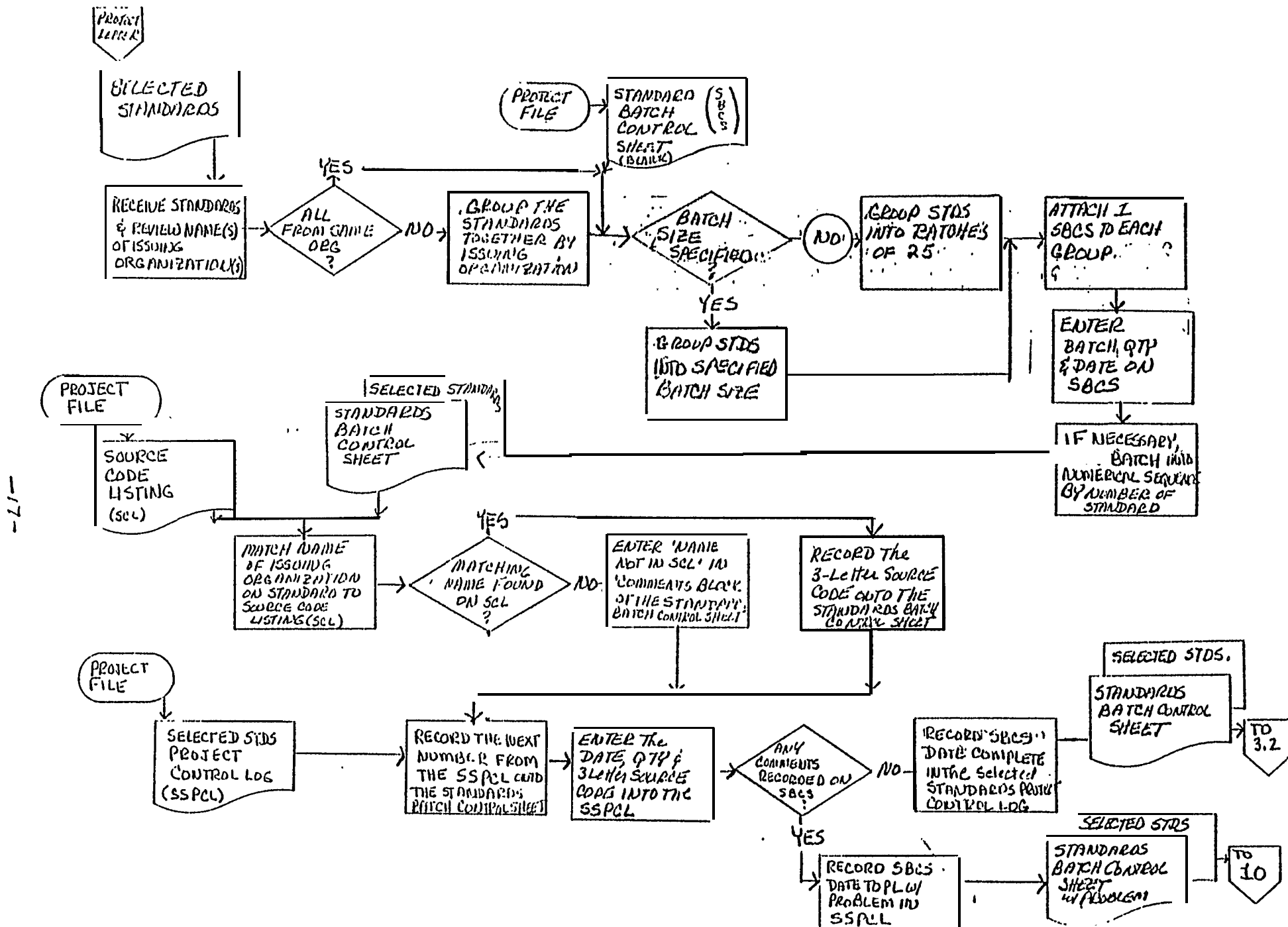
If a comment is recorded on the SBCS, the current date will be recorded on the SSPCL in block (5) and block (6) will remain blank.* The batch(s) of standards will then be forwarded to the Project Leader.

* NOTE: Block (6) on the SBCS will be filled in after the Project Leader has resolved the problem, made an entry in blocks (12) and (13) on the SBCS, and has returned the batch to the Project Librarian.

FIGURE 4-2
PROCESSING FLOW FOR BLOCKS 3 THROUGH 5 OF FIGURE 3-2: OVERVIEW OF
PREPARATION OF CONTROL SHEETS THROUGH DISTRIBUTION TO ANALYST PROCESSING FLOW



PROCESSING FLOW FOR PART 3.1 OF FIGURE 3-2: OVERVIEW OF
PREPARATION OF STANDARDS BATCH CONTROL SHEET



4.4 Preparation of Coding Forms (Project Librarian)

a. Obtain NSSP Coding Forms

Upon receiving the selected standards, (see 4-2 and 4-4), a blank NSSP Cataloging and Screening coding form (see Figure 3-1) will be removed from the project file for each selected standard contained within the batch (see Figure 3-5 - Standards Batch Control Sheet, block ④ - quantity in batch).

b. Enter Organization Code

The organization code is a three position alphabetic code which identifies the standards-issuing organization. The three-letter Source Code will be copied from block ② of the Standards Batch Control Sheet into the organization code, block ①, of the NSSP Coding form. In order to complete blocks ② through ⑤ on the NSSP Coding form, each selected standard must be reviewed.

c. Enter Number of Standard

Each selected standard will contain an identification number which has been assigned by the issuing organization. This "number" may consist of numbers and/or letters and other punctuation. Before recording the identification number into the Number of Standard, block ②, on the Coding form, the following checks should be made:

1. If the identification number includes a reference to the organization Code, block ①, do not include the organization code as part of the number entered in block ② on the Coding form.
2. If the identification number includes a date and that date is the same as the latest revision date, do not include the date as part of the number entered in block ② on the Coding form. (NOTE: Many issuing organizations include the date in the number with a hyphen).
3. If the identification number includes any spaces, do not include the spaces as part of the number entered in block ② of the Coding form.

4. Include all other punctuation which may occur as part of the identification number in the block ② entry.

- d. What to do When the Standard Identification Number Exceeds Ten Characters

If the identification number is too large to be recorded in the Number of Standard block (more than 10 characters), the following entry will be made in the **Comments Section** of the Standards Batch Control sheet: The next sequential number will be entered in the Comment No, block ⑨ , and the comment 'Standard number too large' will be entered in block ⑪ . A check will then be made to see whether the 'standard number too large' comment will apply to all of the standards within the batch. If the comment is true for all the standards within the batch, 'All' will be entered in the STD Number, block ⑩ . If the comment does not apply to all of the standards within the batch, then the identification number of the applicable standard will be recorded in the STD Number block.

- e. Enter The Year Latest Rev.

The Year Latest Rev. refers to the last two digits of the year in which the most recent revision of the standard was published. These two digits will be entered in block ③ of the NSSP Coding form. If the standard contains more than one date (e.g., the date of the original issue and the date of the latest revision), the most recent date will be entered in block ③ .

- f. What to do When There is a Problem with the Year Latest Rev.

Whenever the YEAR LATEST REV. block cannot be filled in, the following entry will be made in the Comments Section of the Standards Batch Control Sheet. The next sequential number will be entered in the Comment No., block ⑨ , and the problem encountered will be entered in Comment, block ⑪ . A check will then be made to see whether the comment applies to all of

the standards within the batch. If the comment applies to all of the standards within the batch, 'ALL' will be entered in the STD Number, block (10) . If the comment does not apply to all of the standards within the batch, then the identification number of the applicable standard will be recorded in the STD Number block.

g. Enter-Year Reaff.

The last two digits of the year the standard was reaffirmed will be entered in block (4) of the NSSP Coding form. NOTE: Many standards will not have a reaffirmed date. Thus, if a reaffirmation date does not appear on a selected standard, the YEAR REAFF block will be left blank.

h. Enter Full Title of Standard

The full title, as it appears on the selected standard will be recorded in the Full Title of Standard, block (5) .

i. What to do if There is a Problem with the Title of the Standard

If the title on the standard exceeds 120 positions, or if some other problem has occurred, an entry will be made in the Comments Section of the Standards Batch Control Sheet, the next sequential number will be entered in the Comment No., block (9) , and the problem encountered will be entered under Comment, block (11) . A check will then be made to see whether the comment applies to all of the standards within the batch. If the comment applied to all of the standards within the batch, 'ALL' will be entered in the STD Number, block (10) . If the comment does not apply to all of the standards within the batch, the identification number of the applicable standard will be recorded in the STD Number block.

j. Enter Coding form Preparation Completion Data in Project log

Once an NSSP Cataloging and Screening Coding form has been

established for all the selected standards within a batch, the following three document types will be forwarded for entry in the Selected Standards Project Control Log (see Figure 3-4):

1. Standard Batch Control Sheet,
2. NSSP Cataloging and Screening Coding Form(s), and
3. Selected Standard(s).

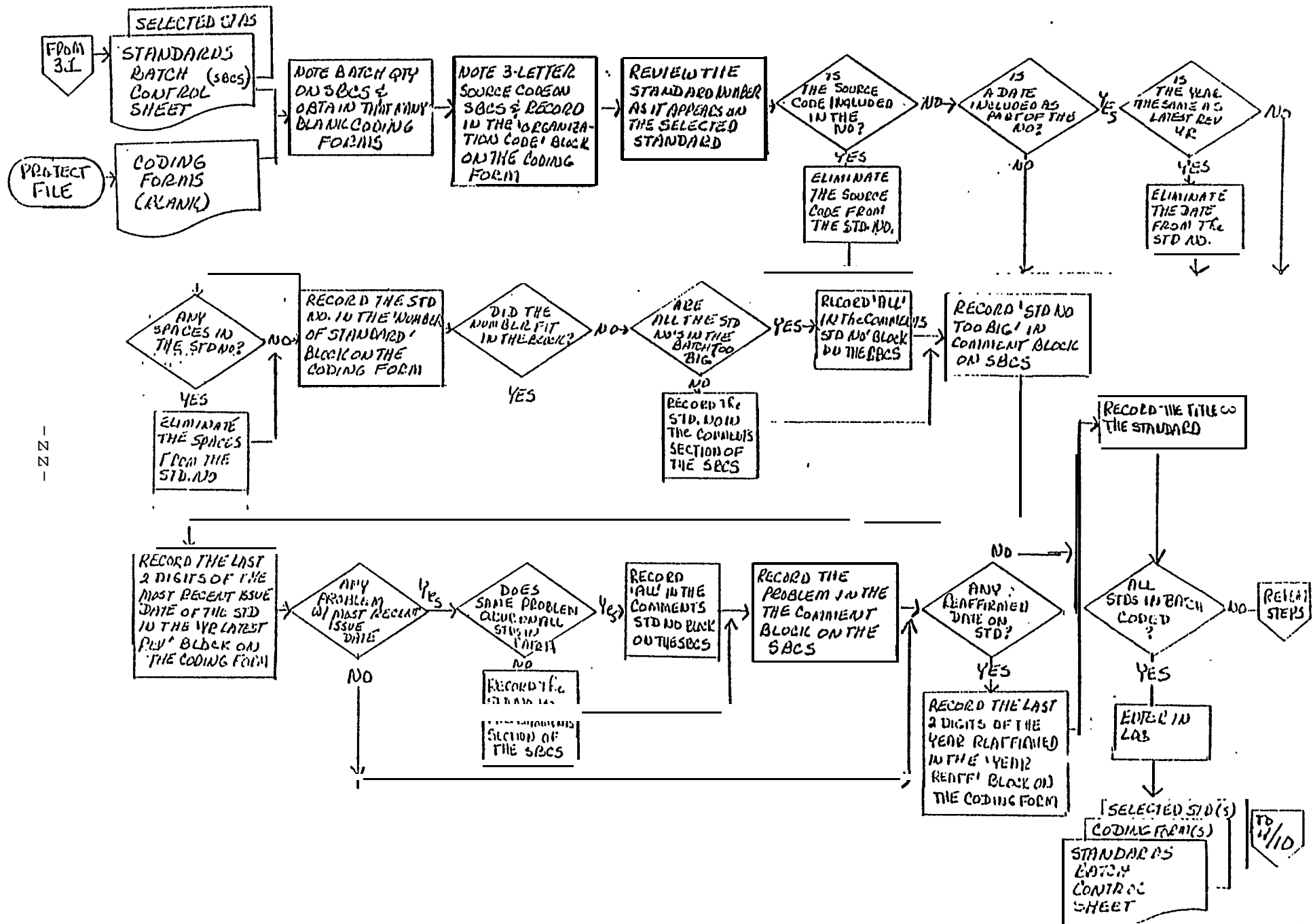
A match will be made on the Batch Control number, block ① on both the Selected Standards Project Control Log and the Standards Batch Control Sheet. Before recording the date in the Control Log, the Comments Section of the Standards Batch Control Sheet must be reviewed.

1. If any unresolved comments appear on the SBCS, the current date will be entered into the control log Date to Project Leader with Problem, block ⑧ *.
2. If there are no unresolved comments on the SBCS, the current date will be entered into the Control Log Date Completed, block ⑨ .

In either case, the batch--will then be forwarded to the Project Leader.

* The Control Log Date Completed, block ⑨ entry will be made after the Project Leader has resolved the problem, completed blocks ⑫ and ⑬ on the SBCS, and returned the batch to the Project Librarian.

FIGURE 4-4
PROCESSING FLW FOR BLOCK 3.2 OF FIGURE 3-2: ONE VIEW
PREPARE CODING FORM
OF PROCESSING
FLOW



4.5 Schedule Batch and Assign Technical Analyst (Project Leader)

Upon receiving a batch of selected standards that are ready to be scheduled (see Figure 4-2), the Project Leader will review the workload of each Technical Analyst, make an assignment, determine the scheduled completion date and record the following information onto the Standards Batch Control Sheet:

<u>BLOCK NO.</u>	<u>INFORMATION</u>
5	Date of Assignment
6	Name of Technical Analyst Assigned
7	Scheduled Date to be Complete

The batch will then be returned to the Project Librarian.

4.6 Log Schedule and Assignment Data (Project-Librarian)

After the Project Leader has scheduled a batch of standards the Project Librarian will match the batch control number as it appears on the Standards Batch Control Sheet (see Figure 3-5) to the Project Control Batch Number in the Selected Standards Project Log (see Figure 3-4). The data recorded in blocks ⑤ (date assigned), ⑥ (analyst), and ⑦ (Schedule Complete) of the Standards Batch Control Sheet will be entered into blocks ⑩ , ⑪ & ⑫ of the Selected Standards Project Log. The Batch will then be delivered to the Assigned Technical Analyst.

4.7 Screening and Cataloging Standards (Technical Analyst)

a. Review Scheduled Completion Date

Upon receipt of a batch of Selected Standards, the assigned Technical Analyst will review the Scheduled to Complete Date, block ⑦ , on the Standards Batch Control Sheet. If the Technical Analyst anticipates any problem in meeting the scheduled Completion Date, the Project Leader should be notified immediately.

b. Assign Functional Area Category Code

The Technical Analyst will obtain the latest issue of the Functional Area Category Code Listing (see Appendix B) and, after reviewing the selected standard, determine which of the functional area category codes is applicable. The functional area Category Code is a three-position numeric code. It identifies the ship-building functional area in which the standard applies. The applicable code will be recorded in block ⑥ of the NSSP Cataloging and Screening Coding form. (See Figure 4-5).

c. How to Record a Functional Area Category Code Problem

If a problem occurs during the functional area Category Code selection process, (e.g., conflicting functional area Codes, or unspecified functional area Codes), the Technical Analyst will record the problem in the following blocks in Comments Section of the Standard Batch Control Sheet.

The next sequential number will be entered in block ⑨ , the identification number of the standard will be entered in block ⑩ and the specific problem encountered with the Functional Area Category Code will be entered in block ⑪ .

c. Determine Subject Categories

The Technical Analyst will obtain the latest issue of the Subject Category Index Listing (SCIL) (see Appendix C), and after reviewing the subject matter of the selected standard determine which category/categories are applicable (see Figure 4-5).

The NSSP Cataloging and Screening form has been designed to allow for the entry of up to three subject categories (see block ⑦ , A, B & C). Each of the subject categories can be up to 60 character positions in length. The Technical Analyst must enter at least one subject Category. The second and third subject category entries will be dependent upon whether the subject has more than one logical reference name. The Technical Analyst will match the subject content of the selected standard with the Subject Category Index Listing and record the subject(s) in block ⑦ of the NSSP Cataloging and Screening form. The Subject Category List only records those subject categories which have been required to date. The Technical Analyst should establish new subject categories as required, and report them as outlined below.

d. How to Record A Subject Category Problem

If a problem occurs during the Subject Category selection process (e.g., more than three logical reference subjects or unspecified subject category with the SCIL), the Technical Analyst will record the problem in the following blocks in the Comments Section of the Standards Batch Control Sheet:

The next sequential number will be entered in block ⑨ , the identification number of the standard will be entered

in block ⑩ and the specific problem encountered with the subject category will be entered in block ⑪ .

e. Record Standard Type

The Technical Analyst will determine which one of the five standard types specified for block ⑨ of the NSSP Cataloging and Screening is applicable and enter the appropriate on character numeric code. The identification codes are as follows:

	VALUE TITLE	MEANING
1	Def. & Class	The standard establishes definitions and/or classifications.
2	Design	The standard is used primarily in design activities.
3.	Prod. & Opr.	The standard is used primarily in production and/or operation activities.
4	Test/Insp	The standard is used primarily in test and/or inspection activities
5	Spec	The standard defines units or boundaries (specifications) on the characteristics of materials, items, systems, etc.

f. How to Record a Standard Type Problem

If a problem occurs during the standard type category selection process (e.g., unspecified standard type category on the Coding form), the Technical Analyst will record the problem in the following blocks in the Comments Section of the Standards Batch Control Sheet:

The next sequential number will be entered in block ⑨ , the identification number of the standard will be entered in block ⑩ and the specific problem encountered with the standard type will be entered in block ⑪ .

g. Record Potential Industry-Wide Benefits

The Technical Analyst will determine which one of the four potential Industry-Wide Benefits specified for block ⑨ of the

NSSP Cataloging and Screening form is applicable and enter the appropriate one character numeric code. The identification codes signify the relative amount of benefits obtainable by the **use** of the Standard by the U.S. Shipbuilding industry. The codes are as follows:

- 0 - Unspecified
- 1 - Marginal
- 2 - Moderate
- 3 - Great

h. How to Record a Potential Industry-Wide Benefits Problem

If a problem occurs during the Potential Industry-Wide Benefits category selection process, the Technical Analyst will record the problem in the following blocks in the Comments Section of the Standards Batch Control Sheet:

The next sequential number will be entered in block ⑨, the identification number of the standard will be entered in block ⑩ and the specific problem encountered with the Potential Industry-Wide Benefits will be entered in block ⑪.

i. Record the Modifications Required for Shipbuilding Use

The Technical Analyst will determine which one of the four modification requirements specified for block ⑩ of the NSSP Cataloging and Screening form is applicable and enter the appropriate one character numeric code. The specified conditions indicate the relative amount of modification required to the standard in its present state in order to achieve a high degree of usability for the U.S. Shipbuilding industry. The following conditions are specified:

<u>VALUE</u>	<u>TITLE</u>	<u>MEANING</u>
1	Major Modification	The standard requires major modifications which significantly affect the contained descriptions of materials, items or processes.

<u>VALUE</u>	<u>TITLE</u>	<u>MEANING</u>
2	Minor Modification	The Standard requires only minor modifications which do not significantly effect the contained descriptions of materials, items or processes. In its present form the Standard may be usable in part.
3	No Modification	The standard requires no modification to be totally usable.
0	Unspecified	

j. How to Record a Modifications Required for Shipbuilding Use Coding Problem

If a problem occurs during the modification requirement category selection process, the Technical Analyst will record the problem in the following blocks in the Comments Section of the Standards Batch Control Sheet:

The next sequential number will be entered in block ⑨ , the identification number of the standard will be entered in block ⑩ and the specific problem encountered with the modification requirement will be entered in block ⑪ .

k. Record System of Units

The Technical Analyst will determine which of the five system of units specified for the NSSP Cataloging and Screening form is applicable and enter the appropriate one character alphabetic code. The system of units identifies the system of measurement units used within the standard and consists of the following categories:

<u>VALUE</u>	<u>TITLE</u>	<u>MEANING</u>
M	Metric/SI	Metric System or Systeme International
E	English	U.S. Customary System or British Imperial System
N	Not Applicable	
U	Unknown	
0	Other	

1. How to Record a System of Units Problem

If a problem occurs during the system of units selection process the Technical Analyst will record the problem in the following blocks the Comments Section of the Standards Batch Control Sheet:

The next sequential number will be entered in block ⑨ , the identification number of the standard will be entered in block ⑩ and the specific problem encountered with the system of units will be entered in block ⑪ .

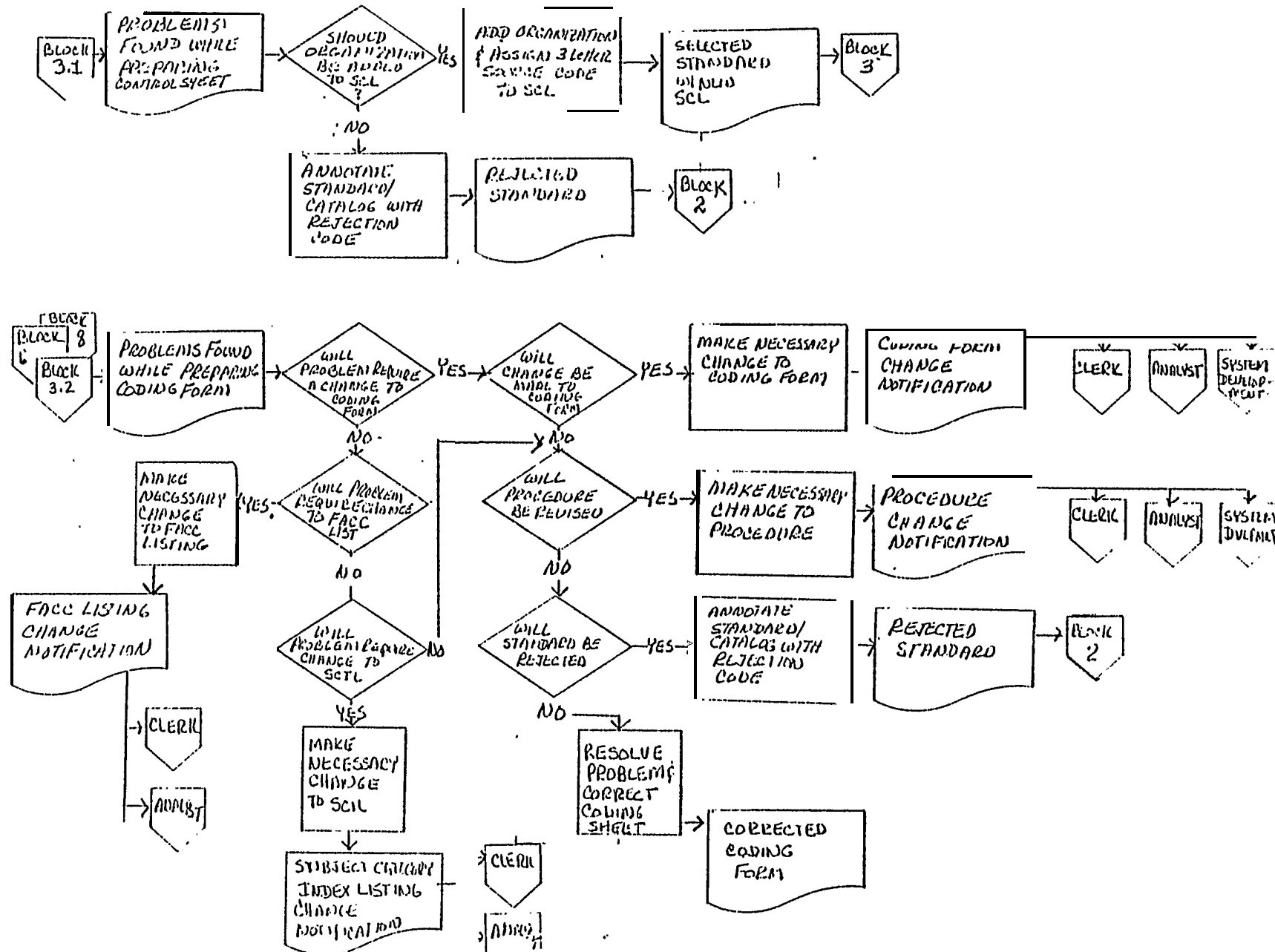
m. Initial and Date the Coding Form

Upon Completing the coding form, the technical analyst will initial the FMM (see block ⑫) and record the date (see block ⑬).

n. Return Batch to Project Librarian

At the completion of screening and cataloging a batch of standards, the Technical Analyst will record the completion date in block ⑧ of the Standards Batch Control Sheet and return the batch to the Project Librarian.

FIGURE 4-6: PROCESSING FLOW FOR BLOCK 9 OF FIGURE 3-2. OVERVIEW OF PROBLEM RESOLUTION BY PROJECT LEADER



8 Log Completion (Project Librarian)

Upon receipt of a completed batch of coding forms, the Project Librarian will record the date in block (14) of the Project Control Log, Figure 3-4, and forward the batch to the Project Leader.

4.9 Review Coding Forms (Project Leader)

Upon receipt of a batch completed coding forms, the Project Leader will review problems indicated on the Batch Control Sheet and resolve them as appropriate. In addition, the Project Leader will review the coding forms for general completeness and readiness for key entry, enter the F-25 subcommittee assignment in block (14) of each NSSP Indexing and Coding form, and return the batch to the Project Librarian.

4.10 Submit Coding Forms for Key Entry (Project Librarian)

Upon receipt of approved batches of coding forms from the Project Leader, the Project Librarian will release them to key entry (as later arranged), and record the date sent in block (15) of the Project Control Log, Figure 3-4. The batch, the date returned will be recorded in block (16) of the Log, and the standards filed alphabetically by organization and standard number.

This completes the processing of standards under this task.

APPENDIX A

ORGANIZATION CODES

APPENDIX A - ORGANIZATION CODES

(From National Bureau of Standards Publication 329, An Index of U. S. Voluntary Engineering Standards)

3. List of Acronyms and Organizations

AA	The Aluminum Association 750 Third Avenue New York, New York 10017	ABL	American Bleached Shellac Manufacturers Association. Inc. 425 Park Avenue New York, New York 10022
AAA	American Association of Advertising Agencies 200 Park Avenue New York, New York 10017	ABM	American Boiler Manufacturers Association 1180 Raymond Boulevard Newark, New Jersey 07102
AAB	Association of American Battery Manufacturers, Inc. 1801 Murchison Drive Burlingame, California 94010	ASS	American Bureau of Shipping 45 Broad Street New York, New York 10004
AAC	Automotive Air Conditioning Association, Inc. 6116 North Central Expressway Dallas, Texas 75206	ABY	American Boat & Yacht Council, Inc. 15 East 26th Street New York, New York 10010
AAI	Agricultural Ammonia Institute c/o The Fertilizer Institute 1015 18th St., NW. Washington, D.C. 20036	AC	American Concrete Paving Association 1211 West 22nd Street Oak Brook, Illinois 60523
AAM	Architectural Aluminum Manufacturers Association One East Wacker Drive Chicago, Illinois 60601	ACA	American Crystallographic Association Dr. Walter Roth c/o General Electric Research & Development Center Schenectady, New York 12301
AAR	Association of American Railroads 1920 L Street, NW. Washington, D.C. 20006	ACC	American Association for Contamination Control 6 Beacon Street Boston, Massachusetts 02108
AAT	American Institute of Architects 1735 New York Avenue, NW. Washington, D.C. 20006	ACC	American Conference of Governmental Industrial Hygienists 1014 Broadway Cincinnati, Ohio 45202
ABF	Association of Bedding and Furniture Law Officials 270 Broadway New York, New York 10007		

	American Concrete Institute P.O. Box 4754, Redford Station Detroit, Michigan 48219	ACM	American Gear Manufacturers Association 1330 Massachusetts Avenue, NW. Washington, D.C. 20005
ACM	Alumina Ceramic Manufacturers Association 331 Madison Avenue New York, New York 10017	ACS	American Gem Society 3142 Wilshire Boulevard Los Angeles, California 90005
ACO	Associated Cooperage Industries of America, Inc. 818 Olive Street St. Louis, Missouri 63101	AHL	American Home Lighting Institute 230 North Michigan Avenue Chicago, Illinois 60601
ACS	American Chemical Society 1155 16th Street, NW. Washington, D.C. 20036	AHO	Association of Home Appliance Manufacturers 20 North Wacker Drive Chicago, Illinois 60606
AD	American Dehydrators Association 800 West 47th Street Kansas City, Missouri 64112	AHP	American Association for Health, Physical Education & Recreation 1201 16th Street, NW. Washington, D.C. 20036
ADA	American Dental Association 211 East Chicago Avenue Chicago, Illinois 60611	AHR	American Society of Heating, Refrigerating & A Conditioning Engineers 345 East 47th Street New York, New York 10017
ADC	Air Diffusion Council 435 North Michigan Avenue Chicago, Illinois 60611	AI	Asphalt Institute Asphalt Institute Building College Park, Maryland 20742
ADK	American Die Casting Institute, Inc. 366 Madison Avenue New York, New York 10017	AIA	American Insurance Association 85 John Street New York, New York 10038
ADM	American Dry Milk Institute, Inc. 130 North Franklin Street Chicago, Illinois 60606	AIC	American Institute of Chemical Engineers 345 East 47th Street New York, New York 10017
AE	American Society of Enologists P.O. Box 411 Davis, California 95616	AIM	Acoustical & Insulating Materials Association 205 West Touhy Avenue Park Ridge, Illinois 60068 Formerly: Insulating Board Institute
AEI	Association of Edison Illuminating Companies 51 East 42nd Street New York, New York 10017	AIR	Association of Iron and Steel Engineers 1010 Empire Building Pittsburgh, Pennsylvania 15222
AES	Audio Engineering Society Room 428, Lincoln Building 60 East 42nd Street New York, New York 10017	AIS	American Iron & Steel Institute 150 East 42nd Street New York, New York 10017
AFB	Anti-Friction Bearing Manufacturers Association, Inc. 60 East 42nd Street New York, New York 10017	AIT	American Institute of Timber Construction 333 West Hampden Avenue Englewood, Colorado 80110
AFC	Association of American Feed Control Officials, Inc. Room 106-State House Annex Concord, New Hampshire 03301	A L	Associated Locksmiths of America 11 Elmendorf Street Kingston, New York 12401
AFM	American Feed Manufacturers Association, Inc. 53 West Jackson Boulevard Chicago, Illinois 60604	ALA	American Library Association 50 East Huron Street Chicago, Illinois 60611
AFT	American Fishing Tackle Manufacturers Association 20 North Wacker Drive Chicago, Illinois 60606	ALC	American Leather Chemists Association c/o University of Cincinnati Cincinnati, Ohio 45221
AGC	The Associated General Contractors of America 1957 E Street, NW. Washington, D.C. 20006	AM	Archery Manufacturers Organization RD. 1, Box 119 Bechtelsville, Pennsylvania 19505
AGI	American Gum Importers Laboratories, Inc. 2 Park Avenue New York, New York 10016		

AMA	Ambulance Manufacturers Association 8959 Blue Ash Road Cincinnati, Ohio 45242	ARI	Air-Conditioning and Refrigeration Institute 1815 North Fort Myer Drive Arlington, Virginia 22209
AME	American Society of Mechanical Engineers 345 East 47th Street New York, New York 10017	AS	American Spice Trade Association, Inc. 58 Sylvan Avenue P.O. Box 1267 Engelwood Cliffs, New Jersey 07632
AMM	American Association of Medical Milk Commissions, Inc. 405 Lexington Avenue New York, New York 10017	ASA	Aluminum Siding Association One East Wacker Drive Chicago, Illinois 60601
AMO	Air Moving and Conditioning Association, Inc. 30 West University Drive Arlington Heights, Illinois 60004	ASC	American Society of Cinematographers 1782 North Orange Drive Hollywood, California 90028
ANS	American National Standards Institute, Inc. 1430 Broadway New York, New York 10018 Formerly: United States of America Standards Institute, Inc.	ASE	American Society of Agricultural Engineers P.O. Box 229 St. Joseph, Michigan 49085
AOA	Association of Official Analytical Chemists P.O. Box 540, Benjamin Franklin Station Washington, D.C. 20044	ASH	American Association of State Highway Officials 341 National Press Building Washington, D.C. 20004
AOC	American Oil Chemists' Society 35 East Wacker Drive Chicago, Illinois 60601	ASI	American Institute of Steel Construction, Inc. 101 Park Avenue New York, New York 10017
AOS	Association of Official Seed Analysts West Experiment Station University of Massachusetts Amherst, Massachusetts 01002	ASL	American Society of Lubrication Engineers 838 Busse Highway Park Ridge, Illinois 60068
AP	American Paper Institute 260 Madison Avenue New York, New York 10016	ASM	American Congress on Surveying and Mapping 430 Woodward Building 733 15th Street, NW. Washington, D.C. 20005
APA	American Plywood Association 1119 A Street Tacoma, Washington 98401	ASN	American Society of Sanitary Engineering 228 Standard Building Cleveland, Ohio 44113
APC	Air Pollution Control Association 4400 Fifth Avenue Pittsburgh, Pennsylvania 15213	ASP	American Society of Photogrammetry 105 North Virginia Avenue Falls Church, Virginia 22046
APC	American Association of Petroleum Geologists 1444 South Boulder, Box 979 Tulsa, Oklahoma 74101	ASQ	American Society for Quality Control 161 West Wisconsin Avenue Milwaukee, Wisconsin 53203
APH	American Public Health Association, Inc. 1740 Broadway New York, New York 10019	AST	American Society for Testing and Materials 1916 Race Street Philadelphia, Pennsylvania 19103
API	American Petroleum Institute 1801 K Street, NW Washington, D.C. 20006	AT	American Textile Manufacturers Institute, Inc. 1501 Johnston Building Charlotte, North Carolina 28202
APR	Association of Petroleum Re-Refiners Box 7116 Arlington, Virginia 22207	ATA	Air Transport Association of America 1000 Connecticut Avenue, NW. Washington, D.C. 20036
APW	American Public Works Association 1313 East 60th Street Chicago, Illinois 60637	ATC	American Association of Textile Chemists and Colorists Box 12215 Research Triangle Park, North Carolina 27709
ARE	American Railway Engineering Association 59 East Van Buren Street Chicago, Illinois 60605	ATI	Asbestos Textile Institute P.O. Box 239, 75 Center Street Pompton Lakes, New Jersey 07442
		ATR	American Trucking Associations, Inc. 1616 P Street, NW. Washington, D.C. 20036

AVA	Asphalt and Vinyl Asbestos Tile Institute 101 Park Avenue New York, New York 10017	BYM	Barley & Malt Institute P.O. Box 308 Crystal Lake, Illinois 60014
AVS	American Vacuum Society, Inc. 335 East 45th Street New York, New York 10017	CAG	Compressed Air and Gas Institute 122 East 42nd Street New York, New York 10017
AWI	Architectural Woodwork Institute Chesterfield House, Suite "A" 5055 S. Chesterfield Road Arlington, Virginia 22206	CDA	Copper Development Association, Inc. 405 Lexington Avenue New York, New York 10017
AWP	American Wood-Preservers' Association 1012-14th Street, NW. Washington, D.C. 20005	CEM	Conveyor Equipment Manufacturers Association 1000 Vermont Avenue, NW. Washington, D.C. 20005
AWQ	American Wood Preservers Institute Suit 904, Watergate Office Building 2600 Virginia Avenue, NW. Washington, D.C. 20037	CFL	Clay Flue Lining Institute P.O. Box 152 Perkasie, Pennsylvania 18944
AWR	American Wax Importers and Refiners Association, Inc. 225 West 34th Street New York, New York 10001	CFT	Caster and Floor Truck Manufacturers' Association 1717 Howard Street Evanston, Illinois 60602
AWS	American Welding Society, Inc. 345 East 47th Street New York, New York 10017	CGA	Compressed Gas Association, Inc. 500 Fifth Avenue New York, New York 10036
AWW	American Water Works Association, Inc. Two Park Avenue New York, New York 10016	CHI	Chlorine Institute, Inc. 342 Madison Avenue New York, New York 10017
BBI	Brass and Bronze Ingot Institute 300 West Washington Street Chicago, Illinois 60606	CI	Cordage Institute 370 Lexington Avenue New York, New York 10017
BGA	Barre Granite Association 51 Church Street Barre, Vermont 05641	CIM	Construction Industry Manufacturers Association 111 E. Wisconsin Avenue, Suite 1700 Milwaukee, Wisconsin 53202
BHM	Builders Hardware Manufacturers Association 60 East 42nd Street New York, New York 10017	CIS	Cast Iron Soil Pipe Institute 2029 K Street, NW. Washington, D.C. 20006
BLA	Boating Industry Association 333 North Michigan Avenue Chicago, Illinois 60601	CLF	Chain Link Fence Manufacturers Institute 60 East 42nd Street New York, New York 10017
BIS	Baking Industry Sanitation Standards Committee 521 Fifth Avenue New York, New York 10017	CM	Crane Manufacturers Association of America, Inc. 1326 Freeport Road Pittsburgh, Pennsylvania 15238 Formerly: Electric Overhead Crane Institute
BMI	Book Manufacturers' Institute, Inc. 161 East 42nd Street New York, New York 10017	CMI	Can Manufacturers Institute, Inc. 821 15th Street, NW. Washington, D.C. 20005
BOC	Building Officials and Code Administrators International, Inc. 1313 East 60th Street Chicago, Illinois 60637	CP	Canvas Products Association International 224 Endicott Building St. Paul, Minnesota 55101
BSC	Biological Stain Commission University of Rochester Medical Center 260 Crittenden Boulevard Rochester, New York 14620	CPB	Contractors Pump Bureau 1957 E Street, NW. Washington, D.C. 20006
BSI	Building Stone Institute 420 Lexington Avenue New York, New York 10017	CPL	Contracting Plasterers' and Lathers' International Association 20 E Street, NW. Washington, D.C. 20001
		CRA	California Redwood Association 617 Montgomery Street San Francisco, California 94111

CRM	Commercial Refrigerator Manufacturers Association 100 West Washington Street Chicago, Illinois 60602	FGM	Flat Glass Marketing Association 1325 Topeka Avenue Topeka, Kansas 66612
CRI	Concrete Reinforcing Steel Institute 225 North La Salle Street Chicago, Illinois 60601	FHM	Feedwater Heater Manufacturers Association, Inc. c/o Heat Exchange Institute 122 East 42nd Street New York, New York 10017
CSI	Construction Specifications Institute 1717 Massachusetts Avenue, NW. Washington, D.C. 20036	FI	Forging Industry Association 55 Public Square Cleveland, Ohio 44113
CSM	Chemical Specialties Manufacturers Association 50 East 41st Street New York, New York 10017	FIA	Factory Insurance Association 85 Woodland Street Hartford, Connecticut 06102
CTI	Cooling Tower Institute 4242 Richmond Avenue Houston, Texas 77027	FMC	Felt Manufacturers Council c/o Northern Textile Association 211 Congress Street Boston, Massachusetts 02110
DEM	Diesel Engine Manufacturers Association 122 East 42nd Street New York, New York 10017	FME	Factory Mutual System 1151 Boston-Providence Turnpike Norwood, Massachusetts 02062
DFI	Dairy and Food Industries Supply Association, Inc. Office of the Secretary 5530 Wisconsin Avenue Washington, D.C. 20015	FSW	Fine and Specialty Wire Manufacturers Association 1012-14th Street, NW. Washington, D.C. 20005
DOR	Door Operator & Remote Control Manufacturers Association 110 North Wacker Drive Chicago, Illinois 60606	FTI	Facing Tile Institute 333 North Michigan Avenue Chicago, Illinois 60601
EAS	Electrical Apparatus Service Association, Inc. 7710 Carondelet Avenue St. Louis, Missouri 63105	GA	Gypsum Association 201 North Wells Street Room 2510 Chicago, Illinois 60606
EEI	Edison Electric Institute 750 Third Avenue New York, New York 10017	GMA	Grocery Manufacturers of America, Inc. 1133 Avenue of the Americas New York, New York 10036
EFM	Elastic Fabric Manufacturers Institute, Inc. 105 Huntington Street New London, Connecticut 06321	GRD	Gypsum Roof Deck Foundation 1201 Waukegan Road Glenview, Illinois 60025
EIA	Electronic Industries Association 2001 Eye Street, NW. Washington, D.C. 20006	GT	Gravure Technical Association, Inc. 60 East 42nd Street New York, New York 10017
EOA	Essential Oil Association of U.S.A. Inc. 60 East 42nd Street New York, New York 10017	GTA	Glass Tempering Association 2217 Tribune Tower Chicago, Illinois 60611
ESA	Entomological Society of America 4603 Calvert Road College Park, Maryland 20740	GVI	Gas Vent Institute 333 North Michigan Avenue Chicago, Illinois 60601
ESC	Expanded Shale Clay & Slate Institute 1041 National Press Building 14th and F Streets NW Washington, D.C. 20004	HAI	Hearing Aid Industry Conference, Inc. 75 East Wacker Drive Chicago, Illinois 60601
FBA	Fibre Box Association 224 South Michigan Avenue Chicago, Illinois 60604	HDM	Hardwood Dimension Manufacturers Association 3813 Hillsboro Road Nashville, Tennessee 37215
FCI	Fluid Controls Institute, Inc. P.O. Box 1485 Pompano Beach, Florida 33061	HEI	Heat Exchange Institute 122 East 42nd Street New York, New York 10017
		HI	Hydraulic Institute 122 East 42nd Street New York, New York 10017

MPI	Metal Powder Industries Federation 201 East 42nd Street New York, New York 10017	NC	National Concrete Masonry Association P.O. Box 9185, Rosslyn Station Arlington, Virginia 22209
MPT	Mechanical Power Transmission Association 1717 Howard Street Evanston, Illinois 60202	NCB	National Cargo Bureau, Inc. 99 John Street New York, New York 10038
MSI	Mo-Sai Institute P.O. Box 5398 East Pasadena, California 91107	NCC	National Cotton Compress & Cotton Warehouse Association 1085 Shrine Building, P.O. Box 23 Memphis, Tennessee 38101
MSS	Manufacturers Standardization Society of the Valve & Fittings Industry 1815 North Fort Myer Drive Arlington, Virginia 22209	NCE	National Association of Corrosion Engineers 2400 West Loop South Houston, Texas 77027
MTP	Metal Tube Packaging Council of North America 477 Madison Avenue New York, New York 10022	NCI	National Clay Pipe Institute 1130 Seventeenth Street, NW. Washington, D.C. 20036
NA	National Agricultural Chemicals Association 1155 15th Street, NW. Washington, D.C. 20005	NCM	National Association of Chain Manufacturers 111 West Washington Street Chicago, Illinois 60602
NAC	National Acoustical Contractors Association 1201 Waukegan Road Glenview, Illinois 60025	NCP	National Cottonseed Products Association, Inc. 2400 Poplar Avenue Memphis, Tennessee 38112
NAF	National Association of Food Chains 1725 Eye Street, NW. Washington, D.C. 20006	NCR	National Council on Radiation Protection & Measurements 4201 Connecticut Avenue, NW. Suite 402 Washington, D.C. 20008
NAM	National Association of Architectural Metal Manufacturers 228 North LaSalle Street Chicago, Illinois 60601	NEL	National Elevator Industry 101 Park Avenue New York, New York 10017
NAP	National Association of Pattern Manufacturers 21010 Center Ridge Road Cleveland, Ohio 44116	NEM	National Electrical Manufacturers Association 155 East 44th Street New York, New York 10017
NAV	National Audio-Visual Association 3150 Spring Street Fairfax, Virginia 22030	NES	National Environmental Systems Contractors Association 221 North LaSalle Street Chicago, Illinois 60601 Formerly: National Warm Air Heating & Air Conditioning Association
NAW	National Automatic Merchandising Association 7 South Dearborn Street Chicago, Illinois 60603	NFC	National Fibre Can and Tube Association 1725 Eye Street, NW. Washington, D.C. 20006
NB	National Association of Broadcasters 1771 N Street, NW. Washington, D.C. 20006	NFI	Narrow Fabrics Institute, Inc. 271 North Avenue New Rochelle, New York 10801
NBB	National Board of Boiler and Pressure Vessel Inspectors 1155 North High Street Columbus, Ohio 43201	NFL	National Flaxseed Processors Association P.O. Box 9153 Arlington, Virginia 22209
NBD	National Barrel & Drum Association 1028 Connecticut Avenue, NW. Washington, D.C. 20036	NFM	National Association of Furniture Manufacturers, Inc. 666 Lake Shore Drive, Room 1727 Chicago, Illinois 60611
NBG	National Building Granite Quarries Association, Inc. Box 444 Concord, New Hampshire 03302	NFO	National Forest Products Association 1619 Massachusetts Avenue, NW. Washington, D.C. 20036
NBH	National Builders' Hardware Association 1290 Avenue of the Americas New York, New York 10019	NFP	National Fire Protection Association 60 Batterymarch Street Boston, Massachusetts 02110
NBM	National Association of Bedding Manufacturers 724 Ninth Street, NW. Washington, D.C. 20001		

NFS	National Fertilizer Solutions Association Suite 910 Lehmann Building Peoria, Illinois 61602	NLG	National Lubricating Grease Institute 4635 Wyandotte Street Kansas City, Missouri 64112
NFU	National Fluid Power Association Box 49 Thiensville, Wisconsin 53092	NLM	Northeastern Lumber Manufacturers Association, Inc. 11-17 South Street Glens Falls, New York 12801
NFX	National Flexible Packaging Association 12025 Shaker Boulevard Cleveland, Ohio 44120	NMA	National Microfilm Association 8728 Colesville Road, Suite 1101 Silver Spring, Maryland 20910
NGM	National Association of Glue Manufacturers, Inc. 663 Fifth Avenue New York, New York 10022	NMN	National Association of Metal Name Plate Manufacturers 1000 Vermont Avenue, NW. Washington, D.C. 20005 Formerly: Metal Etching & Fabricating Association, Inc.
NGP	Natural Gas Processors Association 808 Home Federal Building 404 South Boston Tulsa, Oklahoma 74103	NMR	National Model Railroad Association, Inc. P.O. Box 1328—Station C Canton, Ohio 44708
NHL	National Hardwood Lumber Association 59 East Van Buren Street Chicago, Illinois 60605	NMT	National Machine Tool Builders' Association 2139 Wisconsin Avenue, NW. Washington, D.C. 20007
NHM	National Association of Hosiery Manufacturers 516 Charlottetown Mall Charlotte, North Carolina 28204	NOF	National Oak Flooring Manufacturers' Association, Inc. 814 Sterick Building Memphis, Tennessee 38103
NHP	Northern Hardwood & Pine Manufacturers Association, Inc. Suite 207—Northern Building Green Bay, Wisconsin 54301	NOR	National Association of Rocketry P.O. Box 178 McLean, Virginia 22101
NHS	National Association of Importers & Exporters of Hides and Skins 225 Broadway New York, New York 10007	NPA	National Particleboard Association 711 14th Street, NW. (Room 720) Washington, D.C. 20005
NID	National Institute of Diaper Services P.O. Box 134 Croton-On-Hudson, New York 10520	NPB	National Paper Box Manufacturers Association 121 North Broad Street, Room 910 Philadelphia, Pennsylvania 19107
NIE	National Association of Insect Electrocuter Manufacturers P.O. Box 337 Pleasant Valley, New York 12569	NPC	National Association of Pipe Coating Applicators 2504 Flournoy Lucas Road Shreveport, Louisiana 71108
NIL	National Industrial Leather Association P.O. Box 1485 Pompano Beach, Florida 33061	NPF	National Plant Food Institute 1700 K Street, NW. Washington, D.C. 20006
NIO	National Institute of Oilseed Products 111 Sutter Street San Francisco, California 94104	NPI	National Printing Ink Research Institute Lehigh University Bethlehem, Pennsylvania 18015
NKC	National Kitchen Cabinet Association 334 East Broadway Suite 248 Louisville, Kentucky 40202	NPL	National Association of Plastic Fabricators, Inc. 4720 Montgomery Lane Washington, D.C. 20014
NKO	National Knitted Outerwear Association 51 Madison Avenue New York, New York 10010	NR	National Roofing Contractors Association 1515 North Harlem Avenue Oak Park, Illinois 60302
NLA	National Lime Association 4000 Brandywine Street, NW. Washington, D.C. 20016	NRA	National Rifle Association of America 1600 Rhode Island Avenue, NW. Washington, D.C. 20036
		NRM	National Ready Mixed Concrete Association 900 Spring Street Silver Spring, Maryland 20910
		NRY	National Association of Relay Manufacturers P.O. Box 1649 Scottsdale, Arizona 85252

VSA	National Standards Association 1321 14th Street, NW. Washington, D.C. 20005 (publishes and sells National Aerospace Standards (NAS) prepared by the National Aerospace Standards Committee (NASC), an activity of the Aerospace Industries Association of America)	PCI	Prestressed Concrete Institute 205 West Wacker Drive Chicago, Illinois 60606
NSE	National School Supply and Equipment Association 79 West Monroe Street Chicago, Illinois 60603	PE	Perlite Institute, Inc. 45 West 45th Street New York, New York 10036
NSF	National Sanitation Foundation Testing Laboratory, Inc. P.O. Box 1468 Ann Arbor, Michigan 48106	PEI	Porcelain Enamel Institute, Inc 1900 L Street, NW. Washington, D.C. 20036
NSI	National Swimming Pool Institute 2000 K Street, NW. Washington, D.C. 20006	PFI	Pipe Fabrication Institute 1326 Freeport Road Pittsburgh Pennsylvania 15238
NSM	National Association of Secondary Material Industries, Inc. 330 Madison Avenue New York, New York 10017	PI	Packaging Institute, Inc. 342 Madison Avenue New York, New York 10017
NSP	National Association of State Purchasing Officials Iron Works Pike Lexington, Kentucky 40505	PLA	Pulverized Limestone Association c/o .MR. William H. Maisel Harry T. Campbell Sons' Company Campbell Building Baltimore, Maryland 21204
NSX	National Association of Store Fixture Manufacturers 53 West Jackson Boulevard Chicago, Illinois 60604	PPC	Paperboard Packaging Council 1250 Connecticut Avenue, NW. Washington, D.C. 20036 Formerly: Folding Paper Box Association of America
NSY	National Soybean Processors Association 111 East Wacker Drive Chicago, Illinois 60601	PSA	Photographic Society of America 2005 Walnut Street Philadelphia, Pennsylvania 19103
NTM	National Terrazzo & Mosaic Association, Inc. 716 Church Street Alexandria, Virginia 22314	PSM	Power Saw Manufacturers Association 734 15th Street, NW. Washington, D.C. 20005
NWC	National Association of Wiping Cloth Manufacturers 173 West Madison Street Chicago, Illinois 60602	PST	Pressure Sensitive Tape Council 1201 Waukegan Road Glenview, Illinois 60025
NWL	National Association of Wool Manufacturers 1015 18th St., NW. Washington, D.C. 20036	RCS	Red Cedar Shingle & Handsplit Shake Bureau 5510 White Building Seattle, Washington 98101
NWM	National Woodwork Manufacturers Association 400 West Madison Street Chicago, Illinois 60606	RI	The Refractories Institute 3184 One Oliver Plaza Pittsburgh, Pennsylvania 15222
NWP	National Wooden Pallet & Container Association 1619 Massachusetts Avenue, NW. Washington, D.C. 20037	RIA	Record Industry Association of America, Inc. One East 57th Street New York, New York 10022
NWR	National Wheel & Rim Association 4836 Victor Street Jacksonville, Florida 32207	RLM	RLM Standards Institute, Inc. P.O. Box 754 Meriden, Connecticut 06405
OMA	Optical Manufacturers Association 30 East 42nd Street New York, New York 10017	RMA	Rubber Manufacturers Association 444 Madison Avenue New York, New York 10022
OPE	Oilfield Production Equipment Manufacturers Association 2160 South Sheridan Road Tulsa, Oklahoma 74129 Package Conveyor Institute 250 Gateway Towers—Gateway Center Pittsburgh, Pennsylvania 15222	RMI	Rack Manufacturers' Institute 1326 Freeport Road Pittsburgh, Pennsylvania 15238
		RRA	Rubber Reclaimers Association, Inc. 63 Radmor Avenue Naugatuck, Connecticut 06770

RT	Radio Technical Commission for Aeronautics 1717 H Street. NW.. Suite.6SS Washington. D.C. 20006	SM	Scale Manufacturers Association One Thomas Circle. NW. Washington. D.C. 20005
RTA	Railway Tie Association 5 colt street Paterson. New Jersey 07501	SMA	Screen Manufacturers Association 110 North Wacker Drive Chicago, Illinois 60606
RWM	Resistance Welder Manufacturers' Association 1900 Arch Street Phildelphia Pennsylvania 19103	SMI	Spring Manufacturers Institute 24 Stearns Street P.O. Box 959 Bristol, Connecticut 06010
SAC	Sheet Metal and Air Conditioning Contractors National Association. Inc. 1611 North Kent Street Arlington. Virginia 22209	SMP	Society of Motion Picture & Television Engineers 9 East 41st Street New York New York 10017
SAE	Society of Automotive Engineers, Inc. Two Pennsylvania Plaza New York. New York 10001	SMT	Stucco Manufacturers Association 15926 Kittridge Street Van Nuys, California 91406
SAM	Scientific Apparatus Makers Association 1140 Connecticut Avenue, NW. Washington, D.C 20036	SNA	Society of Naval Architects and Marine Engineers 74 Trinity Place New York, New York 10006
SBC	Southern Building Code Congress 1116 Brown-Marx Building Birmingham, Alabama 35203	SPI.	Society of the Plastics Industry. Inc. 250 Park Avenue New York. New York 10017
SBM	Steel Bar Mills Association 188 W. Randolph Streer-Suite 722 Chicago, Illinois 60601	SPN	Southern Pine Inspection Bureau P.O. Box 846 Peneacola, Florida 32502
SCM	Southern Cypress Manufacturers Association. P.O. Box 5316 Jacksonville. Florida 32216	SSP	Steel Structures Painting Council 4400 Fifth Avenue Pittsburgh. Pennsylvania 15213
SCP	Structural Clay Products Institute 1750 Old Meadow Road McLean Virginia 22101	SSS	Scaffolding & Shoring Institute 2130 Keith Building Cleveland. Ohio 44115 Formerly: Steel Scaffolding & Shoring Institute
SDI	Steel Deck Institute 9836 West Roosevelt Road Westchester. Illinois 60153	STI	Steel Tank Institute 435 N. Michigan Avenue Chicago, Illinois 60611
SFS	Steel Founders' Society of America Westview Towers 21010 Center Ridge Road Rocky River, Ohio 44116	STW	Society of Technical Writers & Publishers. Inc. 1010 Vermont Avenue. NW. Suite 421, Denrike Building Washington, D.C 20005
SGA	Stained Glass Association of America 3600 University Drive Fairfax Virginia 22030	SWI	Steel Window Institute 2130 Keith Building Cleveland. Ohio 44115
SI	Stainless Steel Institute 206 North Washington Street Alexandria & Virginia 22314	TAP	Technical Association of the Pulp and Paper Industry 360 Lexington Avenue New York. New York 10017
SIG	Sealed Insulating Glass Manufacturers Association P.O. Box 374 Carpentersville, Illinois 60110	TB	Test Boring Association, Inc 2271 North Avenue New Rochelle, New York 10801
SJI	Steel Joist Institute Suite 707 2001 Jefferson Davis Highway Arlington. Virginia 22202	TEM	Tubular Exchanger Manufacturers Association, Inc. 3331 Madison Avenue New York, New York 10017
SLA	Special Libraries Association 235 Park Avenue South New York. New York 10003	TGA	Toilet Goods Association, Inc 11625 Eye Street, NW. Washington, D.C. 20006

TCA	Tile Council of America, Inc. 360 Lexington Avenue New York, New York 10017	VWP	Vacuum Wood Preservers Institute P.O. Box 33376 5151 South Loop East Houston, Texas 77033
TPI	Truss Plate Institute, Inc. Suite 205 919 Eighteenth Street, NW. Washington, D.C. 20006	WCF	Water Conditioning Foundation 1780 Maple Northfield, Illinois 60093
TRA	Tire and Rim Association, Inc. Comand Building 34 North Hawkins Avenue Akron, Ohio 44313	WCL	West Coast Lumber Inspection Bureau P.O. Box 25406 Portland, Oregon 97225
TRI	Tire Retreading Institute 1343 L Street, NW. Washington, D.C. 20005	WF	Wood & Synthetic Flooring Institute 1441 Shermer Road Northbrook, Illinois 60062
TTA	The Tissue Association, Inc. 260 Madison Avenue New York, New York 10016	WFB	Woven Fabric Belting Manufacturers Association, Inc. 271 North Avenue New Rochelle, New York 10801
TTM	Truck Trailer Manufacturers Association 1413 K Street, NW. Washington, D.C. 20005	WRC	Western Red Cedar Lumber Association 700 Yeon Building Portland, Oregon 97204
UL	Underwriters' Laboratories, Inc. 207 East Ohio Street Chicago, Illinois 60611	WRI	Wire Reinforcement Institute 5034 Wisconsin Avenue, NW. Washington, D.C. 20016
UMA	Ultrasonic Manufacturers Association, Inc. 271 North Avenue New Rochelle, New York 10801	WSC	Water Systems Council 221 North La Salle Street Chicago, Illinois 60601
USC	U.S. Department of Commerce Office of Engineering Standards Services National Bureau of Standards Washington, D.C. 20234	WWB	Western Wooden Box Association 55 New Montgomery Street San Francisco, California 94105
VCM	Vacuum Cleaner Manufacturers Association 2775 South Moreland Boulevard Cleveland, Ohio 44120	WWM	Western Wood Moulding and Millwork Producers 1730 S.W. Skyline Portland, Oregon 97225
VI	Vermiculite Institute 141 West Jackson Boulevard Chicago, Illinois 60604	WWP	Western Wood Products Association 700 Yeon Building Portland, Oregon 97204
VRC	Variable Resistive Components Institute 1717 Howard Street Evanston, Illinois 60602 Formerly: Precision Potentiometer Manufacturers Association	YSB	Yacht Safety Bureau, Inc. Marine Department Underwriters' Laboratories, Inc. 336 Old Hook Road Westwood, New Jersey 07675
		ZI	Zinc Institute 292 Madison Avenue New York, New York 10017 Formerly: American Zinc Institute

APPENDIX B

FUNCTIONAL AREA CATEGORY CODES

FUNCTIONAL AREA CATEGORY CODES

<u>FACC</u>	<u>CONTENTS</u>
000	- GENERAL: STANDARDS WHICH APPLY TO NO SINGLE OTHER FACC
011	- <u>Electrical Material and Related Fittings</u> cable, cable hangers, clips, motors, controllers
012	- Fasteners and Joining Processes nuts, bolts, glue, welding, rivets, etc.
013	- Piping, pumps, and Related Fittings general Use pumps pipe fittings, valves, hose, tubing except hydraulic scuppers and drains pipe hangers gaskets for pipe joints and fittings manual remote operating gear (automatic remote operating gear - see 418)
014	- Rigging and Lifting Gear rope, chain, blacks, booms, fittings, stoppers padeyes Does not include anchor chain (311), cargo lashing chain (522), parts retaining chain (jack chains) (018)
015	- Tests, Trials, and Measuring Equipment and Procedures
016	- General Material Characteristics composition, strength, color, roughness, etc
017	- Safety (Both Shipboard and Shipyard)
018	- Miscellaneous Mechanical Parts springs, rings, retaining chains, roller chains gears, sprockets
019	- Miscellaneous
020	- Insulation, Thermal and Acoustic and Lagging Does not include LNG cargo insulation
021	- Documentation and Certification regulatory requirements
022	- Tools and Workshops Does not include special tools
023	- Stowage bins racks, shelves lockers
024	- Instruction Books, Manuals, and Markings wall mounted charts and plans, nameboards, etc draft marks Does not include marking of specific items, Plate, pipe, cable (see appropriate categories), such as
025	- Noise and Vibration

1
FUNCTIONAL AREA CATEGORY CODES (con't)

FACC CONTENTS

100 - STRUCTURE

111 - Plate

112 - Shape

113 - Forgings and Castings

114 - Hull Structure Joining and Fastenings

115 - Structural Assemblies

200 - HULL OUTFIT

211 - Foundations.

212 - Sea Chests

213 - Underwater Appendages

 bilge keels, fenders, guards, struts

 stern tubes, fairwaters, etc.

 does not include rudders or stabilizing fins (see 312)

214 - Hull Fittings

 masts , fixed spars

 breakwaters

 chain pipes

 ladders, life rails

 gratings, walkways

 awnings, canopies

 cathodic protection

215 - Hull Openings

 hatches, covers, coamings manholes, structural doors

 trunks

 scuttles

 lights and windows

216 - Solid Ballast

217 - Surface Preparation and Coatings

 paint and tank coatings

 abrasive blasting, pickling, pipe cleaning

 deck coverings

218 - Pipe and Cable Penetrations

 kick pipes

FUNCTIONAL AREA CATEGORY CODES (con't)

FACC CONTENTS

300 - HULL EQUIPMENT

311 - Deck Equipment

stores handling gear, portable ramps
anchors and ground tackle
windlasses, capstans, and winches
mooring, warping, towing gear

boats and handling gear

312 -Steering and Stabilizing Systems

313 - Hull Piping (including fuel oil)

freshwater, distilling, ballast, fire main, flushing
ship's fuel oil filling and transfer, tank heating,
steaming and cleaning
garbage chute
Includes sounding tubes, tank level gages, air escapes,
and overflows
Does not include liquid cargo systems (514) or general
piping material (013)

314 - Accommodations and Steward's Outfit

joiner bulkheads, partitions, joiner doors
furniture, service appliances and equipment

**315 -Heating, Ventilation, Air Conditions, and Refrigeration
Systems**

Includes ship's service and cargo HVAC and refrigeration
except for cargo environmental control systems (513)
substantially different from ship's service equipment
(such as LNG reliquification equipment)

316 -Navigation, Communication, and Lighting

interior and exterior communications
announcing, recording, and telephone systems
alarms and indicating systems (other than fire
detection; see 317 or machinery alarms, see 418)
engine order telegraphs
voice tubes and pneumatic message tubes
lighting fixtures

317 -Fire Detection and Chemical Extinguishing Systems

FUNCTIONAL AREA CATEGORY CODES (con't)

FACC CONTEXTS

400 - PROPULSION EQUIPMENT

411 - Main Propulsion Equipment

main *propulsion* engines, turbines, and reduction gears

main shafting

main propulsion shaft bearings, seals; and stuffing boxes

main propellers

main condensers and air ejectors

412 - Main Propulsion Auxiliaries

propulsion machinery cooling water systems

uptakes and smokestacks

main propulsion air supply

propulsion machinery handling equipment

propulsion machinery lubricating and cooling oil systems

propulsion fuel oil service system

g a g e b o a r d s

413 - Electrical Power and Distribution

switchboards, ships service generator sets, emergency

and auxiliary generator sets

Does not include wire, wireways, racks, and clips (see 011)

414 - Steam Systems

steam generators (boilers)

main steam system

reduced pressure auxiliary systems

condensate and low pressure feed systems

high pressure feed systems

drains collecting systems

415 - Hydraulic Systems

416 - Compressed Air Systems

Does not include pneumatic remote sensing and

control equipment (see 418)

417 - Auxiliary Power Systems

bow thruster

auxiliary power oil and vent piping systems

auxiliary power water cooling systems

418 - Propulsion Automation Remote Sensing and Control

alarms

FUNCTIONAL AREA CATEGORY CODES (con't)

<u>FACC</u>	<u>CONTENTS</u>
500	<u>CARGO OUTFIT AND EQUIPMENT</u>
511	Mechanical CaRGo Handling
512	Cargo Access and Stowage
513	Cargo Environmental Control and Instrumentation (unusual equipment "only; for usual HVAC and refrigeration, see 315)
514	Liquid Cargo Handling
515	Cargo Tanks and Containment (where separate from ship's structure)
600	<u>CONSUMABLES AND SPARES</u>
611	On-Board Spares
612	Shore-Based Spares
613	Consumable Supplies fuel lube oil gases
700	<u>SHIPYARD</u>
711	Construction Operations
712	Engineering and Design general characteristics
713	Contracts and Administration purchasing, supply

APPENDIX C

SUBJECT CATEGORY LIST

SUBJECT CATEGORIES

<u>SUBJECT</u>	<u>SUBJECT</u>
Acoustical Terminology	Container, Cargo
Aluminum	Conveyor
Anchor and Fittings	Coupling, Fire Hose
Automatic Control Termin.	Coupling,Hose
Ball Bearing	Crane
Bearing	Cylindrical Part, Fit
Bending, Pipe and Tube	Derrick
Bitt, Bollard, Clean	Derrick Fittings
Block	Door
Bolt	Door Fittings
Boom	Drain, Floor
Boom Fittings	Drain, Roof
Buzzer	Drain Fittings
Cable Hanger	Drawing Standards
Canvas	Duct, Air
Cargo Hook Swivel.	Dumbwaiter and Elevator
Cargo Lashing	Engine Order Telegraph
Cement, Plastic Pipe	Fairlead
Chain, General Purpose	Fastener Terminology
Chain, Lashing	Fire Fighting Fittings
Chain, Retaining	Fit, Cylindrical Parts
Chain, Roller	Flags and Fittings
Chock	Flange
Cleat	Flashlight
Clinometer	Floodlight
Control Terminology	Fuel Line Gasket

SUBJECT CATEGORIES (con't)

<u>SUBJECT</u>	<u>SUBJECT</u>
Gasket, Fuel Line	Lighting
Gasket, Manhole Cover	Lock Washer
Gasket, Pipe Flange	Lubricating Fittings
Gear	Manhole Handhole, & TkClng Hole
Generator	Measurement, Acoustic
Globe, Indicator Lamp	Measurement, Electric
Gooseneck Bracket	Measurement, Flow
Handhole, Manhole & Tk Clng Hole	Measurement, Level
Handrail and Stanchion	Measurement, Pressure & Vac.
Hanger, Electric Cable	Measurement, Shock and Vib.
Hanger, Pipe	Microfilm Reel
Hanger, Pipe and Cable	Name Plate
Hanger Parts, Pipe	Name Plate Holder
Hatch	Nut
Hatch.Coaming	Padeye
Hatch Cover	Penetration, Pipe
Hatch Cover Wrench	Pipe, Metal
Hatch Fittings	Pipe, Plastic
Hoist	Pipe and Cable Hanger
Hook Swivel	Pipe Bending
Hose Coupling	Pipe Cap Wrench
Hydraulic Fluid	Pipe Fittings, Metal.
Hydraulic Tubing and	Pipe Fittings, Plastic
Indicator Lamp Globe	Pipe Flange
Instruction Plate	Pipe Flange Gasket
Insulated Tube	Pipe Hanger
Ladder	Pipe Hanger Parts

SUBJECT CATEGORIES (Con' t)

SUBJECT

Pipe Thread
pipe Welding
Piping System Design
Piping System Marking
Plastic
Plastic Pipe
Plastic Pipe Cement
Platform, Pilot
Plumbing
* * * * *
Reel, Mooring Wire Rope
Refrigeration
Rivet
Rivet Cap
Rope, Fiber
Rope, Wire
Rope End Fittings
S-Ring
Safety Near Openings
Screw
Screw Thread
Scupper
Scuttle, Rope
Shaft
Shackle, Mooring BUOY

SUBJECT

Shock and Vibration
Signal Lamp
Sounding Pipe and Fittings
Speaking Tube
Spring
Sprocket, Roller Chain
Steering Fittings
Surface Texture
Swivel, Cargo Hook
Swivel Fittings
Tailshaft
Terminology, Automatic Cont.
Terminology, Fastener
Thread, Pipe
Thread, Screw
Tolerances, Fit of Cyl. Parts
Tolerancing
Topping Lift Fittings
Tubing
Ullage Trunk
Uptake
Valve
Valve Operating Gear
Ventilator
Washer, Lock

SUBJECT CATEGORIES (con't)

SUBJECT

Water Cooler

Welding , Pipe

Whistle

Window and Light (and covers)

Wrench

APPENDIX C

SYSTEM SPECIFICATION
FOR COMPUTERIZED CATALOG

SYSTEM SPECIFICATION
FOR A
COMPUTERIZED CATALOGUE
FOR THE
NATIONAL SHIPBUILDING STANDARDS PROGRAM

Prepared by:

Corporate-Tech Planning, Inc.
Portsmouth, New Hampshire

For

Bath Iron Works Corporation
Bath, Maine

October 1978

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APPENDIX - DATA ELEMENT DIRECTORY

1.0 GENERAL INFORMATION

This document is the system specification for the National Shipbuilding Standards Program (NSSP) Standards Locator. It provides analysts and programmers with the information necessary to perform detailed design and development leading to the ultimate implementation of the system.

The remainder of this specification is divided into five major sections. Section 2.0, System Overview, provides a description of the system's functional requirements and performance. Considerations for and constraints upon system hardware, software and operations procedures are presented in Section 3.0, Operating Environment. Section 4.0, Design Characteristics, describes the system logic and associated programs. Section 5.0, Input and Output, describes the major input form used, files created and processed, and reports produced by the system. Finally, a directory of data elements is provided in the appendix. For each data element within the system, the directory contains the definition, edit criteria and, where applicable, special considerations of use to the developers.

2.0 SYSTEM OVERVIEW

2.1 System Requirements

The NSSP Standards Locator System must serve several purposes. First, the system must make it easy to find standards needed by a user, or to ascertain that no standard exists for a particular subject. Normal indices of standards are at best simple alphabetical listings by subject, and other merely numerical listings by serial number. This is neither convenient nor adequate for the NSSP because shipbuilding projects are very complex and include many different systems, components, and items which involve many disciplines. The ease with which the standards can be accessed by the users is the most important considerations in the design of the indexing system.

However, the system will also be used, in the administration of the NSSP, to assign incoming standards to the appropriate categories and to monitor the progress of the standards through the review, approval, and maintenance processes. In addition, the need exists to monitor the coverage of the broad field of shipbuilding by the standards in the NSSP Locator. This is necessary to avoid duplication, overlap, and possible incompatibility between standards, as well as to identify areas within the ship and shipbuilding process which are inadequately covered. These administrative needs, while important to NSSP, are of secondary importance in the design of the system.

The major use of the standards in shipbuilding occurs in the definition and design phases. Decisions and specifications made here will be used throughout the planning, procurement, production, and operating phases of the ship's life cycle. The problem of locating applicable standards is worst here; subsequently the citations will exist, or detailed definition of the ship will exist, either of which will make locating applicable standards

comparatively simple. For instance, a procurement specialist has no need of a Locator if the applicable standards have been specified.

Access needs are of two types: either the user is interested in a functional area of the ship or the shipbuilding process, or he is interested in a more specific subject which may apply to several functional areas. This follows the general pattern of the design process, in that the first considerations are of the entire ship and unique functional systems and areas, and later, more detailed design is concerned with smaller items which are much more likely to have broad usage.

TWO indexing systems are required to serve those Very different needs. The first is organized similar to the various functional breakdowns used by the individual shipyards, the Maritime Administration, and the Navy. The second is a simple alphabetical listing of subjects, which may be supplemented by a key-word-in-context listing of titles of standards.

These two indexes serve the needs of each of the six industries and government user groups, and when supplemented by an administratively organized index, will form the NSSP Standard Locator. Within each of these indexes, standards will be listed by source, number and title under each index category.

Shipbuilders use standards in five major areas: design, planning, procurement, production, and administration. As discussed above, design use requires both functional and topical access. Planning typically requires access to standards describing production methods and regulatory requirements such as welding standards, skill level standards, and safety codes. Such access would be by topic rather than functional area. Procurement requires few new standards; standards describing the goods and

services to be procured are defined elsewhere. Access to procurement procedures and business practice standards would typically be by shipyard functional area.

Owners and Operators deal with standards at the very beginning of the shipbuilding project, and at the end in the operating and maintenance phase. Owners initially need to find standards which describe operating conditions and performance requirements for the intended service of the ship. The standards identified here will have influence throughout the life of the ship, so it is essential that the appropriate standards are accessible. Most access will be by functional area, although topical access for particular items will also be required.

Suppliers' production use of shipbuilding standards generally does not require an index because the particular standards are designated by the customer. However, suppliers also require access to standards which describe products they do not manufacture, such as subcontract components or potential products. In either case, the topical organization would be required.

Regulatory Agencies are interested in ships and their functional systems, as well as individual components, material, and processes. As a result, they require access both by ship or shipbuilding functional area and by individual topic.

Design Agents have the same requirements for access to shipbuilding standards as the shipyard design offices.

Maritime Administration's major involvement with standards is its field inspection to assure compliance with contracts specifications and standards, in which case the pertinent standards are specifically cited and need not be located.

2.2 System Functions

The NSSP Standards Locator System will consist of two major operational cycles. The first, a monthly maintenance cycle will consist of the updating of the index contents. This will be accomplished under the direction of the Standards Index Administrator, who will be responsible for generating standards update feeder forms, reviewing computer produced transaction and-maintenance reports, and ensuring that errors are corrected.

The second operational" cycle, again under the direction of the Standards .Index Administrator, is the generation of user indices. This cycle will take place normally every six months and consists of having the system produce a variety of standards indices which are then reproduced and distributed to user agencies.

The functionality of these cycles, as depicted in Figure 2-1, is described below.

2.2.1 Maintenance Cycle

The functional characteristics of the system maintenance cycle are the following:

- a. Accept and edit the machine readable update transactions. The system will produce listings of transactions with associated error comments.
- b. Upon request, update the Standards File and provide reports of standards added, modified and deleted. Additionally the system will produce a report of invalid transactions (i.e. , "add" transactions with standard identifications which already exist, and "modify" and/or "delete" transactions with standard identifications which do not exist).
- c. Upon request, produce a maintenance report consisting of all the stored data on each standard in order of the standards' identifications.

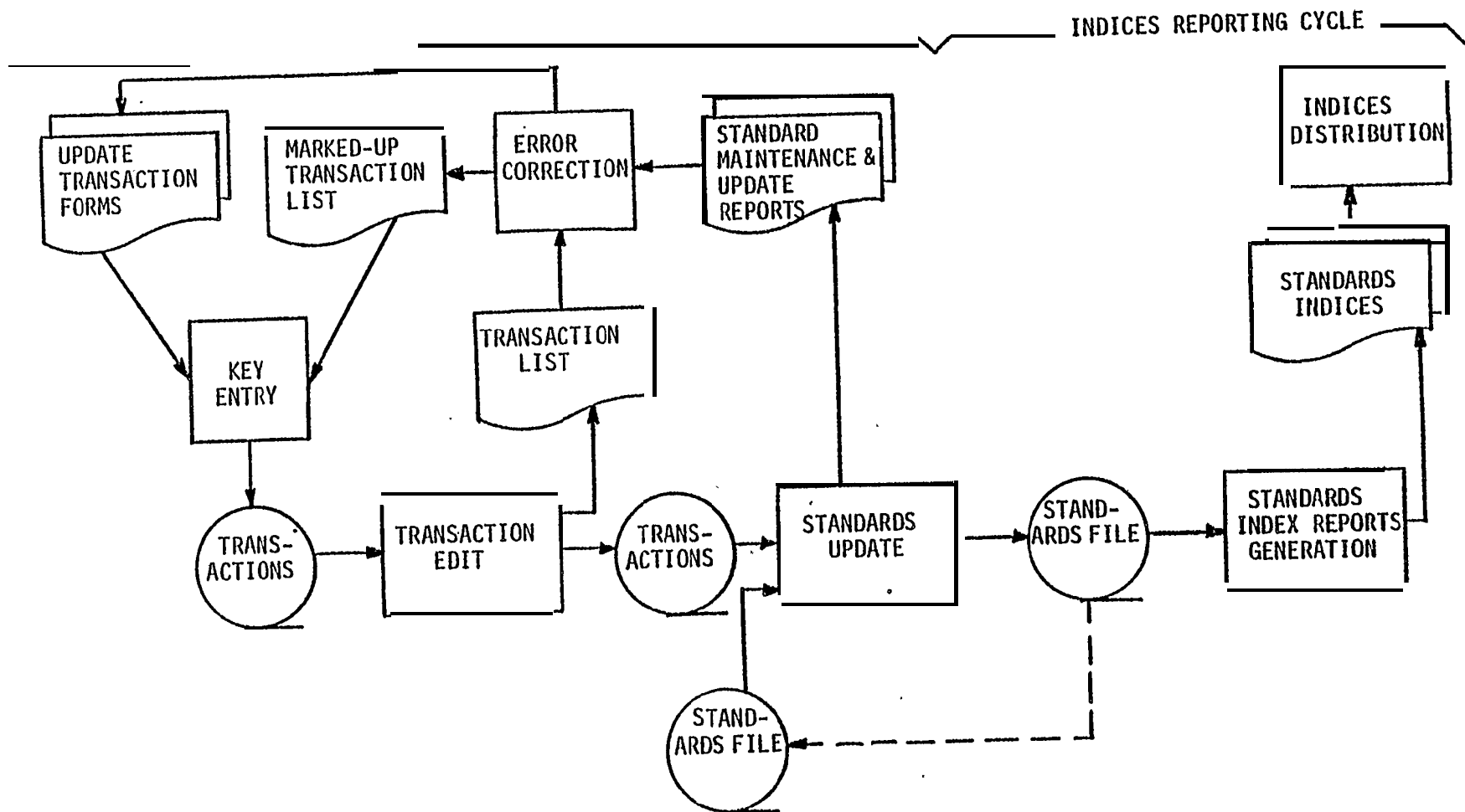


FIGURE 2-1 NSSP STANDARDS LOCATOR SYSTEM OVERVIEW

2.2.2 Indices Reporting Cycle

The functional characteristics of the indices reporting cycle are to produce, upon request, several listings of the represented standards and their associated data. Each listing will be an index in which each standard may be located. The indices to be generated are:

- a. Standards Organization & Number Index - This will be a listing of standards in order of source organization, number and year of revision.
- b. Standards Titles Index - This will be a listing of standards in alphabetical order of their titles.
- c. Standards Functional Area.Index - This will be a listing of standards by shipbuilding functional **area**. Within each area the standards will be ordered by their use or type, source organization, number and year of revision.
- d. Standards Subcommittee Assignment Index - This will be a listing of standards by ASTM Committee F-25 subcommittees. Standards assigned to each subcommittee will be listed in order of source organization, number and year of revision.
- e. Standards Subject Index - This will be a listing of standards by subject categories. Within each subject, standards will be ordered by use or type, source organization, number, and year of revision. A standard may appear in this index under more than one subject.

3.0 OPERATING ENVIRONMENT

The following establishes guidelines, constraints and requirements associated with the hardware, software and operations of the site upon which the NSSP Standards Locator System will reside.

3.1 Equipment

The equipment required to operate the system falls into three major categories:

1. Key Entry Equipment used to translate data from Standards Locator Update Forms into a machine readable format. This specification is written assuming a key-to-disk/tape device will be used.
2. Computer System (with operating system) capable of operating a program which will be concurrently accessing up to four sequential data files consisting of a total of 21 million bytes (approximately 60,000 logical records). It must have the storage capacity and processing capability to perform a sort on a 30,000 record file (10 million bytes total) using a 120 byte key within a reasonable time frame. The system should have the appropriate (a) removable storage media, e.g., compatible magnetic tape units. to interface with the key entry equipment and (b) peripheral device to facilitate reproduction of hardcopy reports, e.g. printer or, if possible, magnetic tape to off-line reproduction equipment (see below).
3. Hardcopy Reproduction Facilities capable of accepting reports produced on the computer system, either as hardcopy or via a removable storage medium, and reproducing multiple hardcopy copies for distribution.

For purposes of this document it has been assumed that computer produced reports are given to the reproduction facility as printer output.

3.2 Support Software

Aside from normal operating system services, the primary support software requirements are:

1. Source and object library support
2. COBOL compilation and debug facilities
3. COBOL run time service routines
4. SORT routines invoked either within COBOL programs or via job control language
5. Report Writer services invoked either internal or external to COBOL programs
6. File creation and manipulation utilities for the creation of test data files during development and for the establishment of back-up files during both the development and operation phases.

3.3 Interfaces

This system has no intersystem or telecommunications requirements.

3.4 Security and Privacy

No specific security or privacy requirements are imposed upon the system by this specification.

3.5 Controls

This system requires that space and controls be established for the storage of off-line files (i.e., magnetic tape reels).

Wherever possible, system/operator communications will conform, in both form and content, to the operation site's written standards or customary procedures.

4.0 DESIGN CHARACTERISTICS

The NSSP Standards Locator System's design is based on batch processing techniques with sequential files. Section 4.1 - describes the system's logical flow and Section 4.2 describes the function of data processing modules presented within the logical flow.

4.1 System Logic

The overall logical flow of the system is depicted in Figure 4.1. Figures 4-2 through 4-9 present the detailed interaction of processing modules and files. For reference purposes, processing modules and files are uniquely identified by codes enclosed in squares and hexagons, respectively. Some files have a numeric character following a letter, e.g. , A1, B1, B2. This indicates that the file is essentially the same in content as the file identified with only the letter, but has been processed to cause differences, such as an altered sort order.

Figures 4-2, 4-3 and 4-4 present the ADP flows of the maintenance cycle. Note that in Figure 4-2, Transaction Editing, there is a manual processing loop back through the key-to-disk operation. This allows for the correction of edit errors prior to updating the standards file. Figure 4-3 shows the Edited Transaction File as input to the Standards File updating process. Upon completion of the update, the Standard Record Maintenance Report is prepared as shown in Figure 4-4.

Figures 4-5 through 4-9 depict the processing required to satisfy the reporting cycle. The Standards Organization and Number Report is generated directly from the updated Standards File, as shown in Figure 4-5. The Standards Title Report, Standards Functional Area Report, and Standards Subcommittee Assignment Report are generated from different sort orders of the updated Standards File (Figure 4-6, 4-7, and 4-8, respectively). Figure 4-9

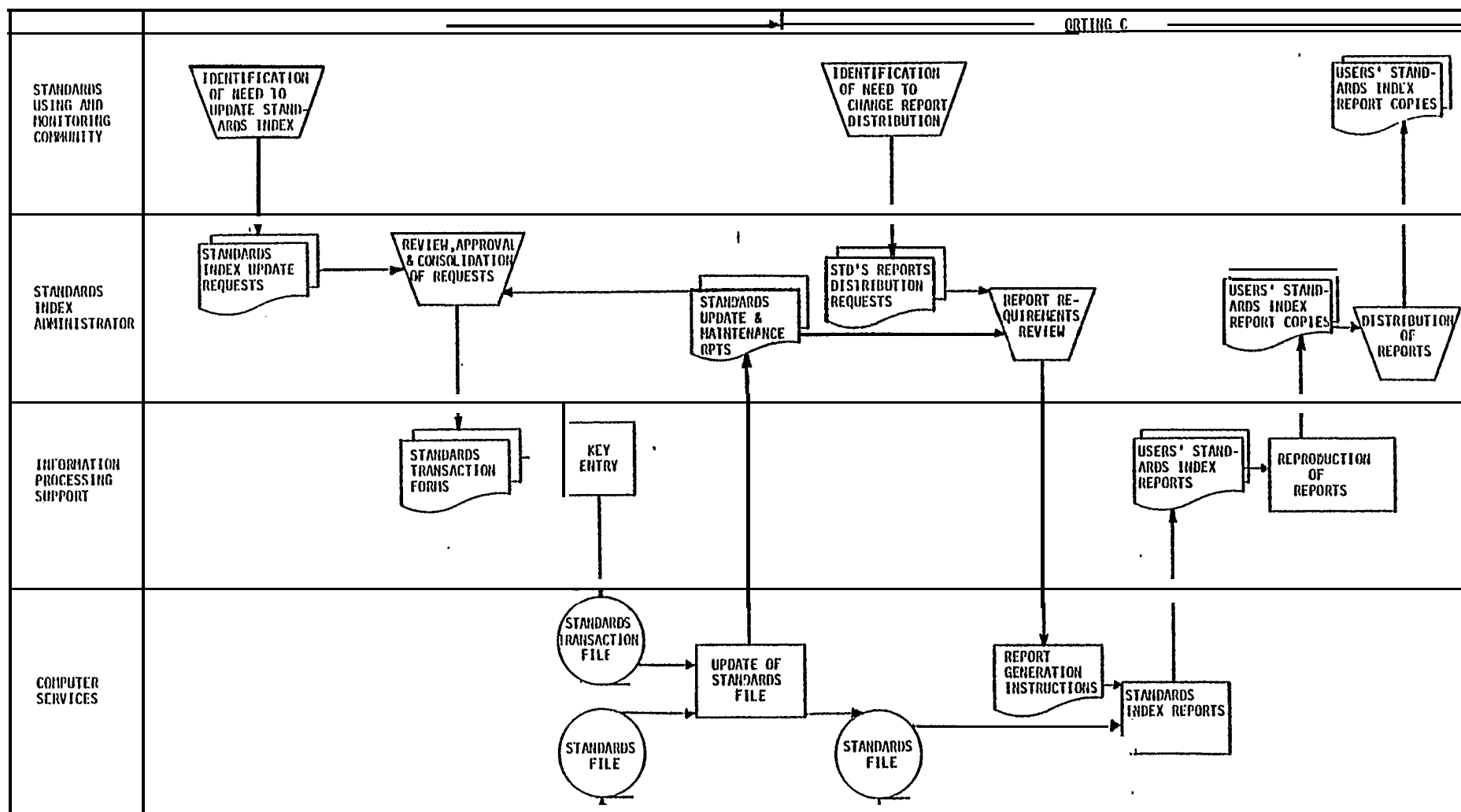


FIGURE 4-1
NSSP STANDARDS LOCATOR SYSTEM

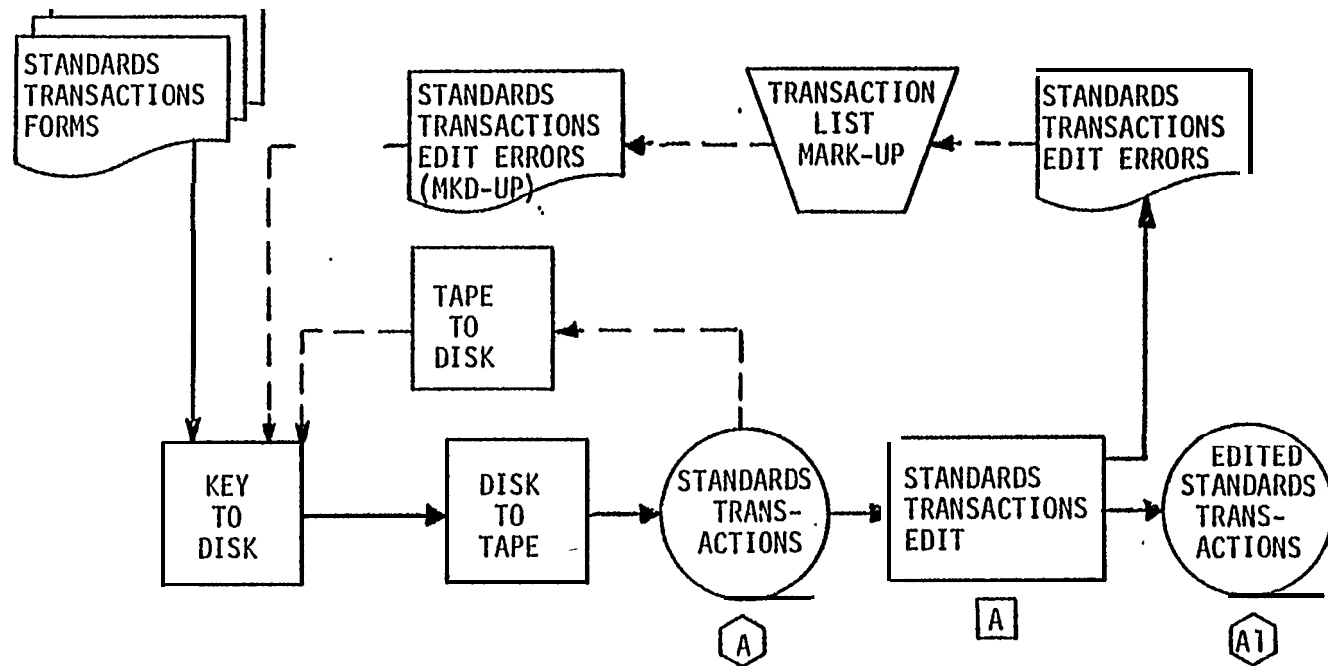


FIGURE 4-2

MAINTENANCE CYCLE TRANSACTION EDITING

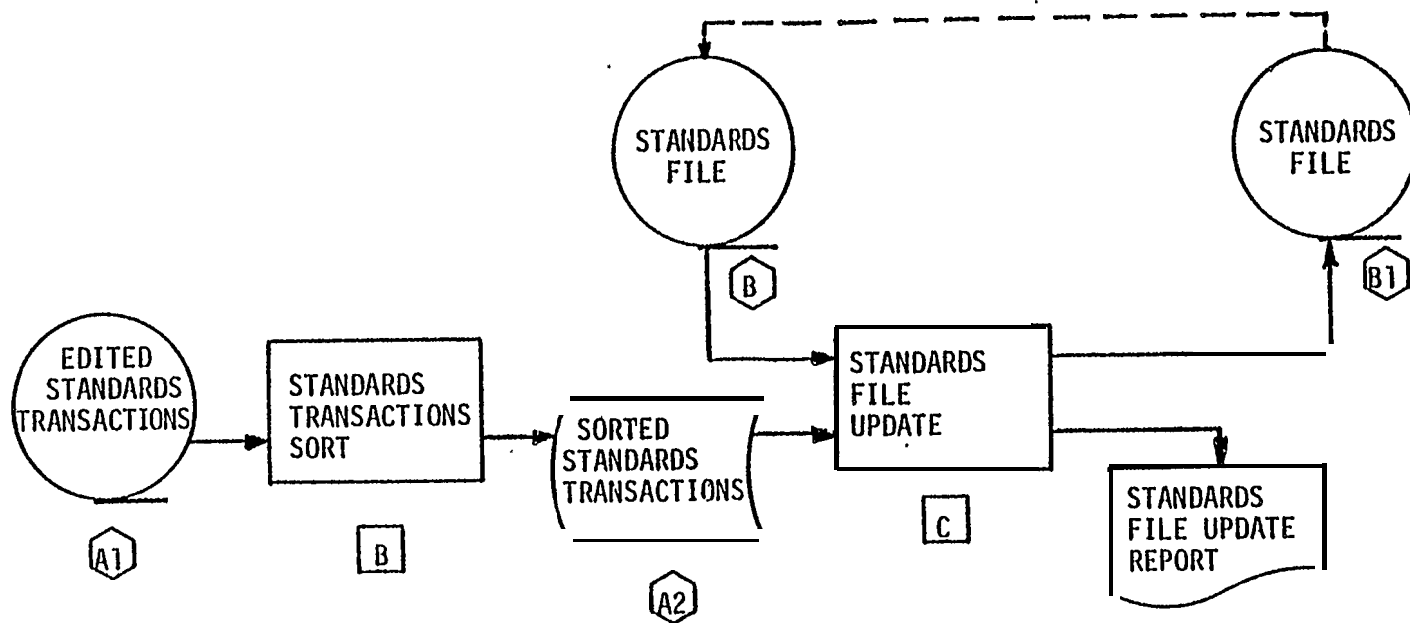


FIGURE 4-3
MAINTENANCE CYCLE
STANDARDS UPDATING

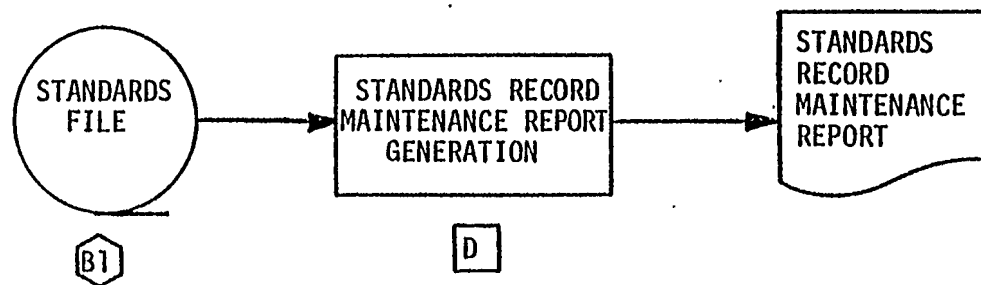


FIGURE 4-4
MAINTENANCE CYCLE
STANDARD RECORD MAINTENANCE REPORT PREPARATION
SYSTEM FLOW

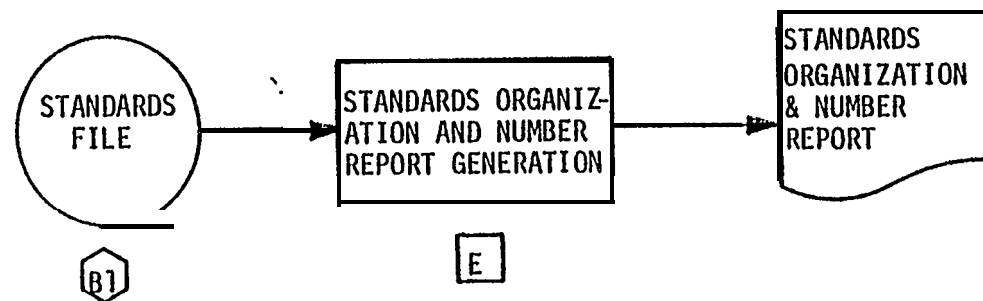


FIGURE 4-5

REPORTING CYCLE

STANDARDS ORGANIZATION & NUMBER REPORT PREPARATION
SYSTEM FLOW

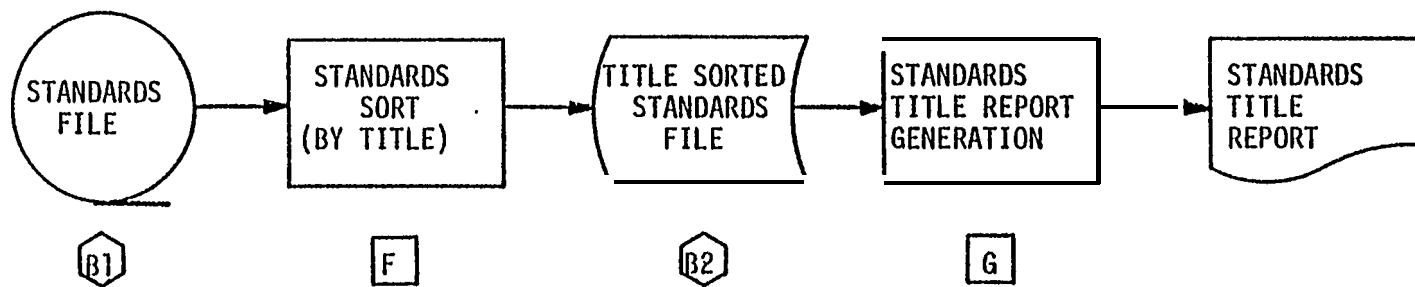


FIGURE 4-6
REPORTING CYCLE
STANDARDS TITLE REPORT PREPARATION
SYSTEM FLOW

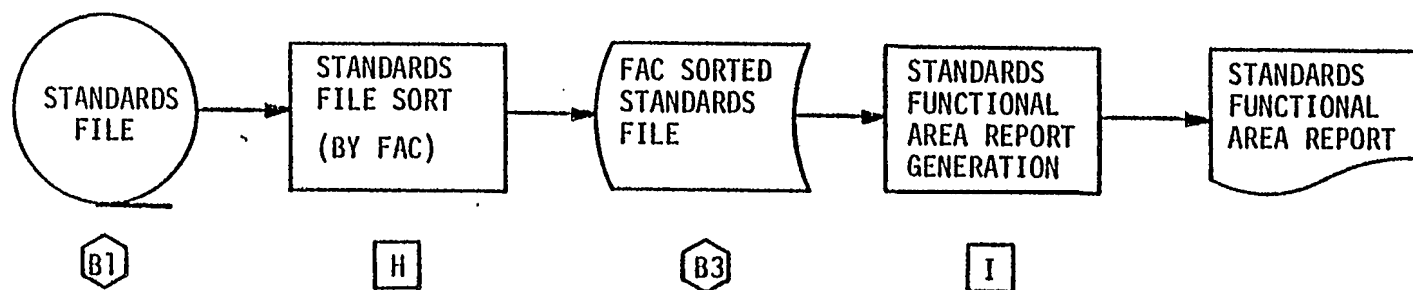


FIGURE 4-7
REPORTING CYCLE
STANDARDS FUNCTIONAL AREA REPORT PREPARATION
SYSTEM FLOW

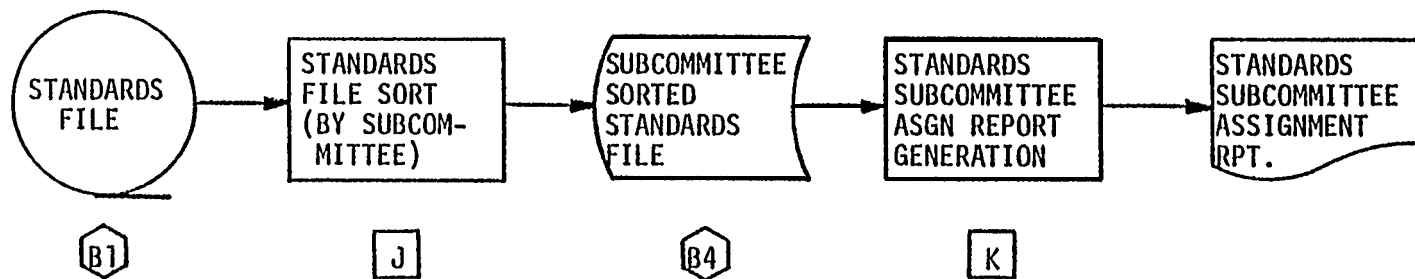


FIGURE 4-8
REPORTING CYCLE
STANDARDS SUBCOMMITTEE ASSIGNMENT REPORT PREPARATION
SYSTEM FLOW

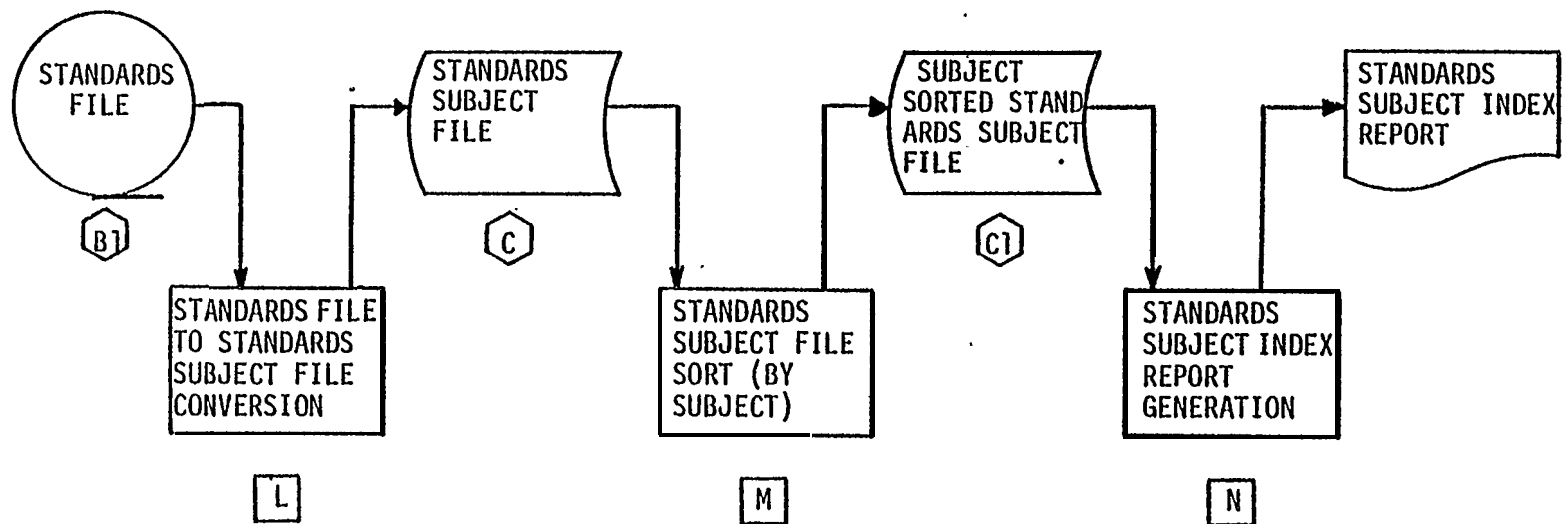


FIGURE 4-9
REPORTING CYCLE
STANDARDS SUBJECT INDEX REPORT PREPARATION
SYSTEM FLOW

depicts the preparation of the Standards Subject Index Report, This consists of creating a Standards Subject File from the updated Standards File and then sorting the newly created file by subject. This final file is then input to the report generation process.

4.2 Processing Modules

The processing modules discussed in this section are those depicted in Figures 4-2 through 4-9. Each module is described in terms of its functionality and input/output characteristics. The reader should reference Section 6, Input and Output, and the Appendix, Data Element Directory, for clarification on formats and edit criteria, as needed.

It is recognized that vast differences exist between computer sites with respect to support software availability and programming/job control language procedures. Therefore, an attempt has been made to not restrict the techniques to be used in providing the processing module functionalities. It is intended that future detailed design and implementation decisions will conform to the practices of the computer site at which the system will ultimately reside.

4.2.1 .Transaction Edit

A. Input/Output

- (1) Input - **Standards** transaction File, A
- (2) output - Edited Standards Transaction File, A1
- (3) output - Standards Transaction Edit Report

B. Description

This processing module (Figure 4-2, A) performs edit checks of the transactions on the Standards Transaction File. Each field is examined for format and, where applicable, range of values or actual content, to determine validity. Valid transactions

are added to the Edited Standards Transaction File. All transactions are listed on the Standards Transaction Edit Report with explanatory messages for those transactions which were rejected. Each execution of this module will create a new Edited Standards Transaction File consisting of all valid input transactions.

4.2.2 Transaction Sort

A. Input/Output

- (1) Input - Edited Transaction File, A1
- (2) output - Sorted Transaction File, A2

B. Description

This processing module (Figure 4-2, B) sorts the transactions on the Edited Transaction File and writes them to the Sorted Transaction File. The Transaction records are sorted based on the following data element value hierarchy:

- i) **ORGANIZATION CODE**
- ii) **NUMBER OF STANDARD**
- iii) **YEAR OF REVISION**
- iv) **TRANSACTION TYPE**

Note that the first three fields of this sort order are identical to those of the sort order of Standards Records on the Standards File. The values of these three data elements form the system's unique identification of a standard.

4.2.3 Standards File Update

A. Input/Output

- (1) Input - SortedTransaction File, A2
- (2) Input - Standards File (old), B
- (3) output - Standards File (new), B1
- (4) output - Standards File Update Report

B. Description

This processing module (Figure 4-3, C) matches standard identifications of transactions against the contents of the Standards File and creates a new Standards File by updating the Standards Records according to the following:

<u>TRANSACTION CODE</u>	<u>STANDARD RECORD MATCH</u>	<u>ACTION</u>
1. (ADD)	YES No	REJECT TRANSACTION POST NEW STANDARD RECORD
2. (MODIFY)	YES No	POST MODIFIED RECORD REJECT TRANSACTION
3. (DELETE)	YES No	DELETE RECORD REJECT TRANSACTION

Each record which is created or modified will have its RECORD MODIFICATION DATE field automatically updated with the calendar date of the module's execution.

It will be possible to have multiple transactions against the same standard, but the rules listed above will force the rejection of invalid combinations.

4.2.4 Standards Record Maintenance Report Generation

A. Input/Output

- (1) Input - Updated Standards File, B1
- (2) output - Standards Record Maintenance Report

B. Description

This processing module (Figure 4-4, D) **generates** an in order listing of the complete contents of each record on the Standards File. The listing is to be used by the Index Administration staff for verification of file contents.

4.2.5 Standards Organization and Number Report Generation

A. Input/Output

- (1) Input - Updated Standards File, B1
- (2) Output - Standards Organization and Number Report

B. Description

This processing module (Figure 4-5, E) generates a listing of selected data from each Standard Record on the Standards File. Note that the Standards File records are maintained in the desired order of this report (i.e., by organization, number, and year of revision).

4.2.6 Standards File Sort by Title

A. Input/Output

- (1) Input - Updated Standards File, B1
- (2) output - Title Sorted Standards File, B2

B. Description

This processing module (Figure 4-6, F) sorts the Standard Records on the Standards File alphabetically by title (Reference TITLE OF STANDARD data element description), and adds them to the Title Sorted Standards File.

4.2.7 Standards Title RePort Generation

A. Input/Output

- (1) Input - Title Sorted Standards File, B2
- (2) output - Standards Title Report

B. Description

This processing module (Figure 4-6, G) generates a listing of selected data from each Standards Record on the Title Sorted Standards File.

4.2.8 Standards File Sort By Functional Area Code (FAC)

A. Input/Output

- (1) Input - Updated Standards File, B1
- (2) output - FAC Sorted Standards File, B3

B. Description

This processing module (Figure 4-7, H) sorts the Standards Records on the Standards File and adds them to the FAC Sorted Standards File. The records are sorted based on the following heirarchy:

- i) FUNCTIONAL AREA CODE
- ii) STANDARD TYPE CODE
- iii) ORGANIZATION CODE
- iv) NUMBER OF STANDARD
- v) YEAR OF REVISION

4.2.9 Standards Functional Area Report Generation

A. Input/Output

- (1) Input - FAC Sorted Standards File, B3
- (2) output - Standards Functional Area Report

B. Description

This processing module (Figure 4-7, I) generates a listing of selected data from each Standards Record on the Functional Area Code Sorted Standards File. It also explicitly reports those Functional Area Code values which have been defined to the system but assigned to no standards.

4.2.10 Standards File Sort By Subcommittee

A. Input/Output

- (1) Input - Updated Standards File, B1
- (2) output - Subcommittee Sorted Standards File, B4

B. Description

This processing module (Figure 4-8, J) sorts the Standard Records on the Standards File and adds them to the Subcommittee Sorted Standards File. The records are sorted based on the following hierarchy:

- i) SUBCOMMITTEE CODE
- ii) ORGANIZATION CODE
- iii) NUMBER OF STANDARD
- iv) YEAR OF REVISION

4.2.11 Standards Subcommittee Assignment Report Generation

A. Input/Output

- (1) Input - Subcommittee Sorted Standards File
- (2) output - Standards Subcommittee Assignment Report

B. Description

This processing module (Figure 4-8, K) generates a listing of selected data from each Standards Record which has a non-zero SUBCOMMITTEE CODE value (Reference the data element description).

4.2.12 Standards Subject File Creation

A. Input/Output

- (1) Input - Updated Standards File, B1
- (2) output - Standards Subject File, C

B. Description

This processing module (Figure 4-9, L) reads each Standards Record on the Standards File, and based on their index

subject contents, builds from one to three Standards Subject Records to create a Standards Subject File. The criteria for record creation is based on the values of INDEX SUBJECT 1, INDEX SUBJECT 2 and INDEX SUBJECT 3 within each Standard Record. For each nonblank index subject value, one Standards Subject Record is created with that value as the value of the record's INDEX SUBJECT data element. If the values of all three index subject data elements within a Standard Record are totally blanks, then one Standards Subject Record should be created with its INDEX SUBJECT set to a repeating character value which will ensure an easily identifiable group of records placed at the end of the Standards Subject File after it has been sorted.

4.2.13 Standards Subject File Sort

A. Input/Output

- (1) Input - Standards Subject File, C
- (2) Output - Sorted Standards Subject File, C1

B. Description

This processing module (Figure 4-9, M) sorts the Standards Subject Records on the Standards Subject File and adds them to the Sorted Standards Subject File. The records are sorted alphabetically based on subject (Reference INDEX SUBJECT data element description).

4.2.14 Standards Subject Index Report Generation

A. Input/Output

- (1) Input - Sorted Standards-Subject File, C1
- (2) output - Standards Subject Index Report

B. Description

This processing module (Figure 4-9,N) generates a listing of the Standards Subject Records' contents from the

Sorted Standards Subject File. When encountered, it explicitly reports those represented standards which have no index subjects assigned (Reference Section 4.2.12 for the means of identifying this condition)

5.0 INPUT AND OUTPUT

This section describes the data feeder forms, reports and major files of the NSSP Standards Locator System.

5.1 Feeder Form

The NSSP Standards Locator System is designed to use one data feeder form to satisfy all types of standards data updating within the system files (Reference Figure 4-1). Exhibit 5-1 is the proposed form and Exhibit 5-2 is an example of the completed form. Sets of filled out forms are key entered to create a machine readable transaction file which is described in the following section.

5.2 Files

This section describes the contents of major files used within the NSSP Standards Locator System. It is recognized that the system will require additional files to perform satisfactorily, such as intermediate sort files. The precise form and content of these are left to the discretion of the developer. Additionally it is assumed that the developer will determine, based on the characteristics of the operations site, the storage medium for each file.

5.2.1 Transaction Record Files

This file group consists of three files, in progressive stages of processing, all of which contain Transaction Records. Table 5-1 presents the list of data elements in a Transaction Record. The files in this group are:

- (1) Standards Transaction File - This file is the unedited, unsorted set of transaction records as received from key entry (Reference Figure 4-2, File A).

NSSP INDEXING AND SCREENING FORM

DATE _____

TRANSACTION_i TYPE

ORG.
CODE

NUMBER OF
STANDARD

E V .
YEAR

REAFFIRM
Y E A R

FUNCTIONAL
AREA CODE

- 1- ADD
- 2 - CHANGE
- 3- DELETE

STANDARD
T Y P E

POTENTIAL INDUSTRY-WIDE BENEFITS

MODIFICATIONS SYSTEM REQUIRED FOR OF UNITS SHIPBUILDING USE

F-25
SUBCOMMITTEE
ASSIGNMENT

I-DEF & CLASS
2-DESIGN
3-PROD & OPR
4-TEST
5-SPEC

0-NONE
1-MARGINAL
2-MODERATE
3-GREAT

1-MAJOR
2-MINOR
3-NONE

M-METRIC/ST
E-ENGLISH
N-NOT APPLIC.
U-UNKNOWN
O-OTHER

FULL TITLE OF STANDARD.

SUBJECT CATEGORIES

1. _____

2. _____

3. _____

ANALYST BEN D.
DATE 9/15/78

NSSP INDEXING AND SCREENING FORM

<u>1</u>	<u>DIN</u>	<u>86071</u>	<u>70</u>	<u>013</u>
<u>TRANSACTION</u> <u>TYPE</u>	<u>ORG.</u> <u>CODE</u>	<u>NUMBER OF</u> <u>STANDARD</u>	<u>REV.</u> <u>YEAR</u>	<u>FUNCTIONAL</u> <u>AREA CODE</u>

- 1 - ADD
2 - CHANGE
3 - DELETE

<u>5</u>	<u>2</u>	<u>3</u>	<u>M</u>	<u>1</u>
<u>STANDARD</u> <u>TYPE</u>	<u>POTENTIAL</u> <u>INDUSTRY-WIDE</u> <u>BENEFITS</u>	<u>MODIFICATIONS</u> <u>REQUIRED FOR</u> <u>SHIPBUILDING USE</u>	<u>SYSTEM</u> <u>OF UNITS</u>	<u>F-25</u> <u>SUBCOMMITTEE</u> <u>ASSIGNMENT</u>
1-DEF & CLASS 2-DESIGN 3-PROD & OPR 4-TEST 5-SPEC	0-NONE 1-MARGINAL 2-MODERATE 3-GREAT	1-MAJOR 2-MINOR 3-NONE	M-METRIC/ST E-ENGLISH N-NOT APPLIC. U-UNKNOWN O-OTHER	

FULL TITLE OF STANDARD

FULL FACE GASKETS FOR FLANGES NOMIN
AL PRESSURES 16 TO 16

SUBJECT CATEGORIES

1 GASKET, FLANGE

2

3

<u>DATA ELEMENT</u>	<u>NUMBER OF POSITIONS</u>
TRANSACTION CODE	1
ORGANIZATION CODE	3
NUMBER OF STANDARD	10
YEAR OF REVISION	2
YEAR OF REAFFIRMATION	2
FUNCTIONAL AREA CODE	3
STANDARD TYPE CODE	1
POTENTIAL BENEFITS CODE	1
MODIFICATION REQUIREMENT CODE	1
SYSTEM OF UNITS CODE	1
SUBCOMMITTEE CODE	2
TITLE OF STANDARD	120
INDEX SUBJECT NUMBER (1st OCCURRENCE)	1
INDEX SUBJECT 1	60
INDEX SUBJECT NUMBER (2nd OCCURRENCE)	1
INDEX SUBJECT 2	60
INDEX SUBJECT NUMBER (3rd OCCURRENCE)	1
INDEX SUBJECT 3	<u>60</u>
TOTAL	330

TABLE 5-1
TRANSACTION RECORD CONTENTS

(2) Edited Standards Transaction File - This is the set of transactions found to be acceptable by the Transaction Edit Processing module (Reference Figure 4-2, File A1). Table 5.2 presents the validation criteria by transaction type. Refer to the appendix for specific data element value edit criteria.

As indicated in Table 5-2, each transaction must have acceptable edit values for ORGANIZATION CODE, NUMBER OF STANDARD, and YEAR OF REVISION. This is because these values, in the given order, represent the system's unique identification of each represented standard. One and only one standard will be represented with a specific identification value. As such these values cannot be changed with a "modify" transaction.

Note that the Edited Standards Transaction File carries no Transaction.-Records which were rejected by the edit processing module.

(3) Sorted Standards Transaction File - This is contains the set of edit acceptable transactions sorted in order of the values of:

- i) ORGANIZATION CODE
- ii) NUMBER OF STANDARD
- iii) YEAR OF REVISION
- iv) TRANSACTION TYPE

Reference Figure 4-3, File A2.

5.2.2 Standards Record Files

This group consists of four files, essentially of different record sort orders. Table 5-3 presents the list of data

DATE ELEMENT	ADD TRANSACTION	MODIFY TRANSACTION	DELETE TRANSACTION
TRANSACTION TYPE	YES (=1)	YES (=2)	YES (=3)
ORGANIZATION CODE	YES	YES	YES
NUMBER OF STANDARD	YES	YES	YES
YEAR OF REVISION	YES	YES	YES
YEAR OF REAFFIRMATION	OPTIONAL	OPTIONAL	IGNORED
FUNCTIONAL AREA CODE	YES	OPTIONAL	IGNORED
STANDARD TYPE CODE	YES	OPTIONAL	IGNORED
POTENTIAL BENEFITS CODE	YES	OPTIONAL	IGNORED
MODIFICATION REQUIREMENT CODE	Y E S	OPTIONAL	IGNORED
SYSTEM OF UNITS CODE	YES	OPTIONAL*	IGNORED
SUBCOMMITTEE CODE	OPTIONAL	OPTIONAL	IGNORED
TITLE OF STANDARD	YES	OPTIONAL	IGNORED
INDEX SUBJECT NUMBER (1st OCCURRENCE)	YES (=1)	OPTIONAL	IGNORED
INDEX SUBJECT1	OPTIONAL	OPTIONAL*	IGNORED
INDEX SUBJECT NUMBER (2nd OCCURRENCE)	YES (=2)	OPTIONAL	IGNORED
INDEX SUBJECT2	OPTIONAL	OPTIONAL*	IGNORED
INDEX SUBJECT NUMBER (3rd OCCURRENCE)	YES (=3)	OPTIONAL	IGNORED
INDEX SUBJECT 3	OPTIONAL	OPTIONAL*	IGNORED

*TO BLANK STANDARDS RECORD VALUE, THIS TRANSACTION RECORD ELEMENT VALUE SHOULD BE ALL ZEROS.

TABLE 5-2
EDIT CRITERIA FOR TRANSACTION RECORDS
ACCEPTABLE VALUE EXISTENCE

<u>DATA ELEMENT</u>	<u>NUMBER OF POSITIONS</u>
ORGANIZATION CODE	3
NUMBER OF STANDARD	10
YEAR OF REVISION	2
YEAR OF REAFFIRMATION	2
REOCDR MODIFICATION DATE	6
FUNCTIONAL AREA CODE	3
STANDARD TYPE CODE	1
POTENTIAL BENEFITS CODE	1
MODIFICATION REQUIREMENTS CODE	1
SYSTEM OF UNITS CODE	1
SUBCOMMITTEE CODE	2
TITLE OF STANDARD	120
INDEX SUBJECT 1	60
INDEX SUBJECT 2	60
INDEX SUBJECT 3	<u>60</u>
TOTAL	332

TABLE 5-3
STANDARDS RECORD CONTENTS

elements in each Standards Record. Note that the combined values of data elements ORGANIZATION CODE, NUMBER OF STANDARD, and YEAR OF REVISION represent the unique identification of a Standard Record. The files in this group are:

- (1) Standards File - This file is the master set of all Standards Records and, as such, is the central repository for all information maintained on standards. This file is updated with changes in standards information (Reference Figure 4-3 Files B and B1), and is the source file for the Standard Record Maintenance Report and all user Index Reports (Reference Figures 4-4 through 4-9, File B1) .
- (2) Title Sorted Standards File - This file contains the same Standards Records as the Standards File; however the records are sorted by the values of data element TITLE OF STANDARD. It is created for report generation purposes and not maintained. (Reference Figure 4-6, File B2) .
- (3) FAC Sorted Standards File - This file contains the same Standards Records as the Standards File; however the records are sorted by the values, in order, of the following data elements:
 - i) FUNCTIONAL AREA CODE
 - ii) STANDARD TYPE CODE
 - iii) ORGANIZATION CODE
 - iv) NUMBER OF STANDARD
 - v) YEAR OF REVISION

The file is created for report generation purposes and not maintained (Reference Figure 4-7, File B3).

- (4) Subcommittee Sorted Standards File - This file contains the same Standards Records as the Standards File; however, the records are sorted by the values, in order, of the following data elements:

- i) SUBCOMMITTEE CODE
- ii) ORGANIZATION CODE
- iii) NUMBER OF STANDARD
- iv) YEAR OF REVISION

The file is created for report generation purposes and not maintained (Reference Figure 4-8, File B4).

5.2.2 Standards Subject Record Files

This group consists of two files, one the result of sorting the other. Table 5-4 presents the list of data elements in each Standard Subject Record. Here it should be noted that a given standard may be represented in more than one record. The files in this group are:

- (1) Standards Subject File - This file is created as a result of breaking apart the Standards Records on the Standards File and establishing a Standards Subject Record for each index subject assigned to a given standard. Refer to Section 4.2 for specific rules. This file is created for report generation purposes and is not maintained (Reference Figure 4-9, File C).
- (2) Sorted Standards Subject File - This file is created by sorting the Standards Subject File. The records are sorted, by the values, in order, of the following data elements:
 - i) INDEX SUBJECT
 - ii) STANDARD TYPE CODE
 - iii) ORGANIZATION CODE

<u>DATA ELEMENT</u>	<u>NUMBER OF POSITIONS</u>
INDEX SUBJECT	60
STANDARD TYPE CODE	1
ORGANIZATION CODE	3
NUMBER OF STANDARD	10
YEAR OF REVISION	2
FUNCTIONAL AREA CODE	3
SYSTEM OF UNITS CODE	1
TITLE OF STANDARD	<u>120</u>
TOTAL	210

T A B L E 5 - 4
STANDARDS SUBJECT RECORD CONTENTS

- iv) NUMBER OF STANDARD
- v) YEAR OF REVISION

This file is created for report generation purposes and is not maintained (Reference Figure 4-9, File C1).

5.3 Reports

The reports produced by the NSSP Standards Locator System fall into two general categories:

- 1) Those reports produced during the maintenance cycle which are for use in the administration of the system, and
- 2) Those reports produced during the indices reporting cycle which are for use by those who are referencing and using standards.

5.3.1 Maintenance Reports

Three report types fall into this category and are discussed below.

- 1) Standards Transaction Edit Report. This report is an as-key-entered listing of Transaction Records with error comments as appropriate. Reference Exhibit 5-3 and Table 5-5 for layout guidelines.
- 2) Standards File Update Report. This report gives summary information of the numbers and types of transactions applied against the Standards File. It includes a list of rejected transactions with appropriate explanations. Reference Exhibit 5-4 and Table 5-6 for Layout guidelines.

- 3) Standards Record Maintenance Report. This is an in-order listing of the contents of each record on the Standards File. Reference Exhibit 5-5 and Table 5-7 for layout guidelines.

5.3.2 Index Reports

This category consists of five standards indices which provide users with various ways to reference standards. They are:

- 1) Standards Organization and Number. This report is a listing of standards in order of their identifications (organization code, number and revision year). It is the only user report which presents, by standard, the index subjects under which each specific standard is listed within the Standards Index Report described below. Reference Exhibit 5-6 and Table 5-8 for the report layout guidelines.
- 2) Standards Title Report. This report is a listing of standards in alphabetical title order. Reference Exhibit 5-7 and Table 5-9 for layout guidelines.
- 3) Standards Functional Area Report. This report is a listing of standards by functional area category. Those standards within a category are listed by type and identification. Reference Exhibit 5-8 and Table 5-10 for layout guidelines.
- 4) Standards Subcommittee Assignment Report. This report is a listing of standards assigned for review purposes to ASTM Committee F-25. The standards are listed in order of their identifications under the specific F-25 subcommittees to which they have been assigned. Reference Exhibit 5-9 and Table 5-11 for layout guidelines.

- 5) Standards Subject Index Report. This report is a listing of standards under subject categories. Within this report a standard may be referenced under up to three different subjects. At the end the report also lists those standards which have not been assigned to a subject category. Reference Exhibit 5-10 and Table 5-12 for layout guidelines.

-NSSP STANDARDS LOCATOR-
 ① STANDARDS TRANSACTION EDIT REPORT

PAGE NO. ② ppp
 DATE ③ yyymmdd

SEQ. NO.	EDIT ACTION	ACTION TYPE	ORG ODE	NO. OF STD	REV YR	REAFRM YR	FAC	STD TYPE	POTENTIAL BENEFITS	MOD REQ	SYS OF UNITS	SUB- COM
TITLE					SUBJECT CATEGORIES							
④ 0001	⑤ aaa	⑥ n	⑦ aaa	⑧ XXXXXXXXX	⑨ yy	⑩ yy	⑪ hnn	⑫ h	⑬ n	⑭ h	⑮ h	⑯ hn
⑰ XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX					10 19 1 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX 2 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX 3 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX							
0002	aaa	n	aaa	XXXXXXXXXX		yy	nnn	n	n	n	n	nn
⑳ eee XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX					1 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX 2 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX 3 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX							
nnnn.	aaa	n	aaa	XXXXXXXXXX	yy	yy	nnn	n	n	n	n	nn
eee XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX					1 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX 2 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX 3 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX							

-NSSP STANDARDS LOCATOR-
① STANDARDS TRANSACTION EDIT REPORT

PAGE NO. ② PPP
DATE ③ yy mm dd

EDIT SUMMARY

TOTAL NUMBER	EDITED TRANSACTIONS	②①	nnnn
	NUMBER ACCEPTED	②②	nnnn
	NUMBER REJECTED	②③	nnnn

EXHIBIT 5-3
CONTINUED

EXHIBIT 5-3 REF. NO.	REPORT FIELD/DATA ELEMENT NAME	NUMBER OF POSITIONS
①	Report title	33
②	Report page number	3
③	Report date	6
④	Transaction sequence number	4
⑤	Edit action code	3
⑥	Transaction type	1
⑦	Organization code	3
⑧	Number of standard	10
⑨	Year of revision	2
⑩	Year of reaffirmation	2
⑪	Functional area code	3
⑫	Standard type code	1
⑬	Potential benefits code	1
⑭	Modification requirement code	1
⑮	System of units code	1
⑯	Subcommittee code	1
⑰	Title of standard	120
⑱	Index subject number	1 x 3 = 3
⑲	Index subject 1	60
	Index subject 2	60
	Index subject 3	60
⑳	Edit error code	3 (Repeated)
㉑	Edit transaction count	4
㉒	Edit acceptance count	4
㉓	Edit rejection count	4

TABLE 5-5
STANDARDS TRANSACTION EDIT
REPORT FIELDS

-HSSP STANDARDS LOCATOR-
(1) STANDARDS FILE UPDATE REPORT

PAGE NO. (2) ppp
DATE (3) yyymmdd

NUMBER OF STANDARDS ON OLD STANDARDS FILE - (4) nnnnn
NUMBER OF STANDARDS ON NEW STANDARDS FILE - (5) nnnnn
NUMBER OF STANDARDS ADDED - (6) nnnn
NUMBER OF STANDARDS MODIFIED - (7) nnnn
NUMBER OF STANDARDS DELETED - (8) nnnn

ADDED STANDARDS

ORG CODE	NO. OF STD	REV YR
(9) aaa	(10) xxxxxxxxx	(11) yy
aaa	xxxxxxxxx	yy
aaa	xxxxxxxxx	yy

MODIFIED STANDARDS

ORG CODE	NO. OF STD	REV YR
aaa	xxxxxxxxx	yy
aaa	xxxxxxxxx	yy
aaa	xxxxxxxxx	yy

-NSSP STANDARDS LOCATOR-
① STANDARDS FILE UPDATE REPORT

PAGE NO. (2) ppp
DATE (3) yy/mm/dd

DELETED STANDARDS

ORG CODE	NO. OF STD	REV YR
(9) aaa	(10) xxxxxxxxxxxx	(11) yy
aaa	xxxxxxxxxxxx	yy
	xxxxxxxxxxxx	yy

REJECTED STANDARDS RANS ACTIONS

[illegible]

EXHIBIT 5-4
CONTINUED

EXHIBIT 5-4 REF. NO.	REPORT FIELD/DATA ELEMENT NAME	NUMBER OF POSITIONS
①	Report title	28
②	Report page number	3
③	Report date	6
④	Old standards count	5
⑤	New standards count	5
⑥	Standards added count	4
⑦	Standards modified count	4
⑧	Standards deleted count	4
⑨	Organization code	3
⑩	Number of standard	10
⑪	Year of revision	2
⑫	Update rejection code	2
⑬	Transaction type	1
⑭	Year of Reaffirmation	2
⑮	Functional area code	3
⑯	Standard type code	1
⑰	Potential benefits code	1
⑱	Modification requirement code	1
⑲	System of units code	1
⑳	Subcommittee code	2
㉑	Title of standard	120
㉒	Index subject number	1 x 3 = 3
㉓	Index subject 1	60
	Index subject 2	60
	Index subject 3	60

TABLE 5-6
STANDARDS FILE UPDATE
REPORT FIELDS

-NSSP STANDARDS LOCATOR-
 ① STANDARDS RECORD MAINTENANCE REPORT

PAGE NO ② ppp
 DATE ③ yymdd

ORG CODE	NO OF STD	REV YR	REAFRM	FAC	TYPE	BENEFIT	MOD REQ	UNITS	SUBCOMMITTEE	REC MOD DATE
④ aaa	⑤ xxxxxxxxx	⑥ yy	⑦ yy	⑧ nnn	⑨ n	⑩ n	⑪ n	⑫ a	⑬ xx	⑭ yymdd

⑮ TITLE OF STANDARD
 * xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx *
 * xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx *
 * xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx *

⑯ INDEX SUBJECTS
 1. * xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx *
 2. * xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx *
 3. * xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx *

ORG CODE	NO OF STD	REV YR	REAFRM YR	FAC	TYPE	BENEFIT	MOD REQ	UNITS	SUBCOMMITTEE	REC MOD DATE
aaa	xxxxxxxxxx	yy	yy	nnn	n	n	n	a	xx	yymdd

TITLE OF STANDARD
 * xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx *
 * xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx *
 * xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx *

INDEX SUBJECTS
 1. * xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx *
 2. * xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx *
 3. * xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx *

EXHIBIT 5-5 REF. NO.	REPORT FIELD/DATA ELEMENT NAME	NUMBER OF POSITIONS
①	Report title	35
②	Report page number	3
③	Report date	6
④	Organization code	3
⑤	Number of standard	10
⑥	Year of revision	2
⑦	Year of reaffirmation	2
⑧	Functional area code	3
⑨	Standards type code	1
⑩	Potential benefits code	1
⑪	Modification requirement code	1
⑫	System of units code	1
⑬	Subcommittee code	1
⑭	Record modification date	6
⑮	Title of standard	120
⑯	Index subject number	1 x 3 = 3
⑰	Index subject 1	60
	Index subject 2	60
	Index subject 3	60

TABLE 5-7
STANDARDS RECORD MAINTENANCE
REPORT FIELDS

PAGE NO: 21 PPP
DATE 3 yyyymmdd

INDEX SUBJECTS

INDEX SUBJECTS

1. XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
2. XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
3. XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

EXHIBIT 5-6 REF. NO.	REPORT FIELD/DATA ELEMENT NAME	NUMBER OF POSITIONS
①	Report title	40
②	Report page number	3
③	Report date	6
④	Organization code	3
⑤	Number of standard	10
⑥	Year of revision	2
⑦	Year of affirmation	2
⑧	Title of standard	120
⑨	Functional area code	3
⑩	Standard type title	11
⑪	System of units title	9
⑫	Index subject number	1 x 3 = 3
⑬	Index subject 1	60
	Index subject 2	60
	Index subject 3	60

TABLE 5-8
STANDARDS ORGANIZATION AND NUMBER
REPORT FIELDS

-NSSP STANDARDS LOCATOR-
 ① STANDARDS TITLE REPORT

PAGE NO ② ppp
 DATE ③ yynmdd

TITLE OF STANDARD

④ XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

ORG CODE	NO. OF STD	REV YR	REAFRM YR	FAC	TYPE	SYS OF UNITS
⑤ aaa	⑥ XXXXXXXXX	⑦ yy	⑧ yy	⑨ nnn	⑩ aaaaaaaaaa	⑪ aaaaaaaa

XXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

aaa	XXXXXXXXXX	yy	yy	nnn	aaaaaaaaaa	aaaaaaa
-----	------------	----	----	-----	------------	---------

EXHIBIT 5-7 REF. NO.	REPORT FIELD/DATA ELEMENT NAME	NUMBER OF POSITIONS
①	Report title	22
②	Report page number	3
③	Report date	6
④	Title of standard	120
⑤	Organization code	3
⑥	Number of standard	10
⑦	Year of revision	2
⑧	Year of reaffirmation	2
⑨	Functional area code	3
⑩	Standard type title	11
⑪	System of units title	9

TABLE 5-9
STANDARDS TITLE
REPORT FIELDS

-NSSP STANDARDS LOCATOR-
 ① STANDARDS FUNCTIONAL AREA REPORT

PAGE NO ② ppp
 DATE ③ yy/mm/dd

FAC ④ nnn - ⑤ XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

TYPE ⑥	ORG CODE ⑦	NO OF STD ⑧	REV YR ⑨	REFRM YR ⑩	TITLE ⑪	SYS OF UNITS ⑫
aaaaaaaaa	aaa	XXXXXXXXX	yy	yy	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	aaaaaaaaa
aaaaaaaaa	aaa	XXXXXXXXX	yy	yy	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	aaaaaaaaa
aaaaaaaaa	aaa	XXXXXXXXX	yy	yy	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	aaaaaaaaa
:	:	:	:	:	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	:

FAC nnn - XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

TYPE	ORG CODE	NO OF STD	REV YR	REFRM YR	TITLE	SYS OF UNITS
aaaaaaaaa	aaa	XXXXXXXXX	yy	yy	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	aaaaaaaaa
aaaaaaaaa	aaa	XXXXXXXXX	yy	yy	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	aaaaaaaaa
:	:	:	:	:	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	:

EXHIBIT 5-8
 STANDARDS FUNCTIONAL AREA
 REPORT LAYOUT

-HSSP STANDARDS LOCATOR-
 ① STANDARDS FUNCTIONAL AREA REPORT

PAGE NO ② ppp
 DATE ③ yymmdd

(CONTINUED)

FAC ④ nnn - ⑤ XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

⑥ TYPE	⑦ ORG CODE	⑧ NO OF STDS	⑨ REV YR	⑩ REAFRM YR	⑪ TITLE	⑫ SYS OF UNITS
aaaaa	aaa	XXXXXXXXXX	yy	yy	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	aaaaa
aaaaa	aaa	XXXXXXXXXX	yy	yy	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	aaaaa

FAC nnn XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

TYPE	ORG CODE	NO OF STDS	REV YR	REAFRM YR	TITLE	SYS OF UNITS
aaaaa	aaa	XXXXXXXXXX	yy	yy	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	aaaaa
aaaaa	aaa	XXXXXXXXXX	yy	yy	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	aaaaa

EXHIBIT 5-8
 CONTINUED

EXHIBIT 5-8 REF. NO.	REPORT FIELD/DATA ELEMENT NAME	NUMBER OF POSITIONS
①	Report title	32
②	Report page number	3
③	Report date	6
④	Functional area code	3
⑤	Functional area title	70
⑥	Standard type title	11
⑦	Organization code	3
⑧	Number of standard	10
⑨	Year of revision	2
⑩	Year of reaffirmation	2
⑪	Title of Standard	120
⑫	System of units title	9

TABLE 5-10

STANDARDS FUNCTIONAL AREA
REPORT FIELDS

PAGE NO (2) ppp
DATE (3) yy-mm-dd

ORG CODE	NO OF STD	REV YR	REAFRM YR	FAC	TITLE	TYPE	POTENTIAL BENEFITS	MOD REQ	SYS OF UNITS
aaa	XXXXXXXXXX	yy	yy	nnn	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	aaaaaaaaaaaa	aaaaaaaaaa	aaaaa	aaaaaaaaaa

EXHIBIT 5-9 REF. NO.	REPORT FIELD/DATA ELEMENT NAME	NUMBER OF POSITIONS
①	Report title	40
②	Report page number	3
③	Report date	6
④	Subcommittee code	2
⑤	Subcommittee title	45
⑥	Organization code	3
⑦	Number of standard	10
⑧	Year of revision	2
⑨	Year of reaffirmation	2
⑩	Functional area code	3
⑪	Title of standard	120
⑫	Standard type title	11
⑬	Potential benefits title	8
⑭	Modification requirement title	5
⑮	System of units title	9

TABLE 5-11
STANDARDS SUBCOMMITTEE ASSIGNMENT
REPORT FIELDS

PAGE NO (2) ppp
DATE (3) yyymmdd

[illegible]

EXHIBIT REF. NO.	5-10	REPORT FIELD/DATA ELEMENT NAME	NUMBER OF POSITIONS
①		Report title	30
②		Report page number	3
③		Report date	6
④		Index subject	60
⑤		Standard type title	11
⑥		Organization title	3
⑦		Number of standard	10
⑧		Year of revision	2
⑨		Year of reaffirmation	2
⑩		Title of standard	120
⑪		System of units title	9
⑫		Functional area title	3

TABLE 5-12
STANDARDS SUBJECT INDEX
REPORT FIELDS

APPENDIX

NSSP STANDARDS LOCATOR SYSTEM DATA ELEMENT DIRECTORY

This Appendix presents the specifications for data elements used within the NSSP Standards Locator System. Tables 1 and 2 present a cross reference of data elements to records, files, forms and reports in which they occur. The remaining pages are data element descriptions in alphabetical order by data element name. The descriptions contain data element definitions and edit criteria. Where applicable, special considerations are provided for the system developer.

DATA ELEMENT	TRANSACTION RECORD FILES		STANDARDS RECORD FILES				STANDARDS SUBJECT RECORD FILES	
	STANDARDS TRANSACTION (INC. EDITED)	SORTED STANDARDS TRANSACTION	STANDARDS (INC. UPDATED)	TITLE SORTED STANDARDS	FAC SORTED STANDARDS	SUBCOMMITTEE SORTED STANDARDS	STANDARDS SUBJECT	SORTED STANDARDS SUBJECT
EDIT ACCEPTANCE COUNT								
EDIT ACTION CODE								
EDIT ERROR CODE								
EDIT REJECTION COUNT								
EDIT TRANSACTION COUNT								
FUNCTIONAL AREA CODE	X	X	X	X	X,S1	X	X	X
FUNCTIONAL AREA TITLE								
INDEX SUBJECT							X	X,S1
INDEX SUBJECT NUMBER	X	X						
INDEX SUBJECT 1			X	X	X	X		
INDEX SUBJECT 2			X	X	X	X		
INDEX SUBJECT 3	X	X	X	X	X	X		
MODIFICATION REQUIREMENT CODE	X	X	X	X	X	X		
MODIFICATION REQUIREMENT TITLE								
NEW STANDARDS COUNT								
NUMBER OF STANDARDS			X,S2	X	X,S4	X,S3	X	X,S4
OLD STANDARDS COUNT								
ORGANIZATION CODE	X	X,S1	X,S1	X	X,S3	X,S2	X	X,S3
ORGANIZATION TITLE								
POTENTIAL BENEFITS CODE	X	X	X	X	X	X		
POTENTIAL BENEFITS TITLE								
RECORD MODIFICATION DATE			X	X	X	X		
STANDARDS ADDED COUNT								
STANDARDS DELETED COUNT								
STANDARDS MODIFIED COUNT								
STANDARD TYPE CODE	X	X	X	X	X,S2	X	X	X,S2
STANDARD TYPE TITLE								
SUBCOMMITTEE CODE	X	X	X	X	X	X		
SUBCOMMITTEE TITLE								
SYSTEM OF UNITS CODE	X	X	X	X	X	X	X	X
SYSTEM OF UNITS TITLE								
TITLE OF STANDARD	X	X	X	X,S1	X	X	X	X
TRANSACTION SEQUENCE NUMBER								
TRANSACTION TYPE	X	X,S4						
UPDATE REJECTION CODE								
YEAR OF REAFFIRMATION	X	X	X	X	X	X	X	X
YEAR OF REVISION	X	X,S3	X,S3	X	X,S5	X,S4	X	X,S5

X - DATA ELEMENT OCCURS
Sn- nth SORT ORDER OF RECORDS

TABLE 1
DATA ELEMENT OCCURRENCES
WITH RECORD TYPES AND FILES

DATA ELEMENT	STANDARDS TRANSACTION FORM	REPORTS							
		STANDARDS TRANSACTION EDIT	STANDARDS FILE UPDATE	STANDARDS RECORD MAINTENANCE	STANDARDS ORGANIZATION & NUMBER	STANDARDS TITLE	STANDARDS FUNCTIONAL AREA	STANDARDS SUBCOMMITTEE ASSIGNMENT	STANDARDS SUBJECT INDEX
EDIT ACCEPTANCE COUNT		X							
EDIT ACTION CODE		X							
EDIT ERROR CODE		X							
EDIT REJECTION COUNT		X							
EDIT TRANSACTION COUNT		X							
FUNCTIONAL AREA CODE	X	X	X	X	X	X	X,S1	X	X
FUNCTIONAL AREA TITLE							X		X,S1
INDEX SUBJECT									
INDEX SUBJECT NUMBER	X	X	X	X	X				
INDEX SUBJECT 1	X	X	X	X	X				
INDEX SUBJECT 2	X	X	X	X	X				
INDEX SUBJECT 3	X	X	X	X	X				
MODIFICATION REQUIREMENT CODE	X	X	X	X					
MODIFICATION REQUIREMENT TITLE	X							X	
NEW STANDARDS COUNT			X	X					
NUMBER OF STANDARD	X	X	X,S3	X,S2	X,S2	X	X,S4	X,S3	X,S4
OLD STANDARDS COUNT			X						
ORGANIZATION CODE	X		X,S2	X,S1	X,S1	X	X,S3	X,S2	X,S3
ORGANIZATION TITLE									
POTENTIAL BENEFITS CODE	X	X	X	X					
POTENTIAL BENEFITS TITLE	X							X	
RECORD MODIFICATION DATE				X					
STANDARDS ADDED COUNT		X							
STANDARDS DELETED COUNT		X							
STANDARDS MODIFIED COUNT		X							
STANDARD TYPE CODE	X	X	X	X			S2		S2
STANDARD TYPE TITLE	X				X	X	X		X
SUBCOMMITTEE CODE	X	X	X	X				X,S1	
SUBCOMMITTEE TITLE								X	
SYSTEM OF UNITS CODE	X	X	X	X					X
SYSTEM OF UNITS TITLE					X	X	X	X	
TITLE OF STANDARD	X	X	X	X	X	X,S1	X	X	X
TRANSACTION SEQUENCE NUMBER		X							
TRANSACTION TYPE	X	X	X,S1						
UPDATE REJECTION CODE			X						
YEAR OF REAFFIRMATION	X	X	X	X	X	X	X	X	X
YEAR OF REVISION	X	X	X,S4	X,S3	X,S3	X	X,S5	X,S4	X,S5

X - DATA VALUE OCCURS
SMITH SORT FIELD OF REPORT

TABLE 2
DATA ELEMENT OCCURRENCES
HITTING FORMS AND REPORTS

DATA ELEMENT DESCRIPTION

NAME : EDIT ACCEPTANCE COUNT

DEFINITION : The number of transactions which were acceptable to the transaction Edit processing module on a given execution.

EDIT CRITERIA

Number of Character positions: 4

Format: Numeric

Value: An integer less than or equal to the total number of transactions which were edit checked on a given processing run.

Note that the maximum allowable is 9999.

Special Considerations: This data element appears only within the Standards Transaction Edit Report. Reference also data element descriptions of EDIT REJECTION COUNT and EDIT TRANSACTION COUNT .

DATA ELEMENT DESCRIPTION

NAME: EDIT ACTION CODE

DEFINITION: A code assigned to each edited transaction indicating whether or not the transaction was acceptable.

EDIT CRITERIA

Number of Character positions: 3

Format : Alphabetic

Value: Must always be one of the following:

<u>VALUE</u>	<u>MEANING</u>
OKØ	- The given transaction contained no edit errors and is accepted for update processing.
REJ	- The given transaction contained edit errors and was rejected for update processing.

Special Considerations: This data element appears only within the Standards Transaction Edit Report and is associated with each processed transaction. Reference also EDIT ERROR CODE data element description.

DATA ELEMENT DESCRIPTION

NAME : EDIT ERROR CODE

DEFINITION: A code assigned to fields (data elements) within a Standards Transaction in which an error has been detected by the Transaction Edit processing module.

EDIT CRITERIA

Number of Character positions: 3

Format: Alphabetic

Value: Must always be equal to one of the following:

<u>VALUE</u>	<u>MEANING</u>
NUM	- Alphabetic character detected within a field which should be all numeric.
VAL	- An unacceptable value detected within a field which has only specifically defined allowable values.
INC	- No value (blanks) has been found in a mandatory field.

Special Considerations: This data element appears only within the Standards Transaction Edit Report associated with erroneous transaction fields. On a rejected transaction this data element will occur once for each field found in error. Reference also EDIT ACTION CODE data element description.

DATA ELEMENT DESCRIPTION

NAME : EDIT REJECTION COUNT

DEFINITION: The number of transactions which were found to be unacceptable (and therefore rejected) by the Transaction Edit processing module on a given execution.

EDIT CRITERIA

Number of Character positions: 4

Format: Numeric

Value: An integer less than or equal to the total number of transactions which were edit checked on a given processing run
Note that the maximum allowable is 9999.

Special Considerations: This data element appears only within the Standards Transaction Edit Report. Reference also data element descriptions of EDIT ACCEPTANCE COUNT and EDIT TRANSACTION COUNT .

DATA ELEMENT DESCRIPTION

NAME : EDIT TRANSACTION COUNT

DEFINITION: The total number of transactions which were edit checked on a given execution of the Transaction Edit processing MODULE.

EDIT CRITERIA

Number of Character positions: 4

Format : Numeric

Value: Less than or equal to 9999.

Special Considerations: This data element appears only within the Standards Transaction Edit Report. Reference also data element descriptions of EDIT ACCEPTANCE COUNT and EDIT TRANSACTION COUNT .

DATA ELEMENT DESCRIPTION

NAME: FUNCTIONAL AREA CODE

DEFINITION: A code assigned to each represented standard indicating the shipbuilding functional area in which the standard applies.

EDIT CRITERIA

Number of Character positions: 3

Format: Numeric

Value: Reference the table on the following pages for the allowable values and their associated FUNCTIONAL AREA TITLE values.

Special Considerations: Reference also FUNCTIONAL AREA TITLE data element description.

TABLE OF VALUES FOR
FUNCTIONAL AREA CODE
WITH ASSOCIATED FUNCTIONAL AREA TITLE

<u>FUNCTIONAL AREA CODE</u>	<u>FUNCTIONAL AREA TITLE</u>
000	GENERAL : STANDARDS WHICH APPLY TO NO SINGLE OTHER FUNCTIONAL AREA CODE
011	ELECTRICAL MATERIAL AND RELATED FITTINGS
012	FASTENERS AND JOINING PROCESSES
013	PIPING, PUMPS AND RELATED FITTINGS
014	RIGGING AND LIFTING GEAR
015	TESTS, TRAILS, AND MEASURING EQUIPMENT AND PROCEDURES
016	GENERAL MATERIAL CHARACTERISTICS
017	SAFETY (BOTH SHIPBOARD AND SHIPYARD)
018	MISCELLNEOUS MECHANICAL PARTS
019	MISCELLANEOUS
020	INSULATION, TERMAL AND ACOUSTIC AND LAGGING
021	DOCUMENTATION AND CERTIFICATION
022	TOOLS AND WORKSHOPS
023	STOWAGE
024	INSTRUCTION BOOKS, MANUALS AND MARKINGS
025	NOISE AND VIBRATION
100	STRUCTURE
111	PLATE
112	SHAPE
113	FORGINGS AND CASTINGS
114	HULL STRUCTURE JOININGS AND FASTENINGS
115	STRUCTURAL ASSEMBLIES
200	HULL OUTFIT
211	FOUNDATIONS
212	SEA CHESTS
213	UNDERWATER APPENDAGES (EXCEPT RUDDERS AND FINS)
214	HULL FITTINGS

(Continued)

<u>FUNCTIONAL AREA CODE</u>	<u>FUNCTIONAL AREA TITLE</u>
215	HULL OPENINGS
216	SOLID BALLAST
217	SURFACE PRERATION AND COATINGS
218	PIPE AND CABLE PENETRATIONS
300	HULL EQUIPMENT
311	DECK EQUIPMENT
312	STEERING AND STABILIZING SYSTEMS
313	HULL PIPING (INCLUDING FUEL OIL)
314	ACCOMMODATIONS AND STEWARD'S OUTFIT
315	HEATING, VENTILATION, AIR CONDITIONS, AND REFRIGERATION SYSTEMS
316	NAVIGATION, COMMUNICATION, AND LIGHTING
317	FIRE DETECTION AND CHEMICAL EXTINGUISHING SYSTEMS
400	PROPULSION EQUIPMENT
411	MAIN PROPULSION EQUIPMENT
412	MAIN PROPULSION AUXILIARIES
413	ELECTRICAL POWER AND DISTRIBUTION
414	STEAM SYSTEMS
415	HYDRAULIC SYSTEMS
416	COMPRESSED AIR SYSTEMS
417	AUXILIARY POWER SYSTEMS
418	PROPULSION AUTOMATION REMOTE SENSING AND CONTROL ALARMS
500	CARGO AND OUTFIT EQUIPMENT
511	MECHANICAL CARGO HANDLING
512	CARGO ACCESS AND STOWAGE
513	CARGO ENVIRONMENTAL CONTROL AND INSTRUMENTATION
514	LIQUID CARGO HANDLING
515	CARGO TANKS AND CONTAINMENT (SEPARATE FROM SHIP'S STRUCTURE)
600	CONSUMABLES, REPAIR PARTS, AND SPARES
611	ON-BOARD REPAIR PARTS
612	SHORE-BASED REPAIR PARTS
613	CONSUMABLE SUPPLIES

(Continued)

**FUNCTIONAL
AREA CODE**

FUNCTIONAL AREA TITLE

700	SHIPYARD
711	CONSTRUCTION OPERATIONS
712	ENGINEERING AND DESIGN
713	CONTRACTS AND ADMINISTRATION

DATA ELEMENT DESCRIPTION

NAME : FUNCTIONAL AREA TITLE

DEFINITION: The textual representation of a value assignable to an occurrence of the FUNCTIONAL AREA CODE data element. Reference FUNCTIONAL AREA CODE data element description.

EDIT CRITERIA

Number of Character positions: 70

Format: Alphabetic

Value: Reference table on following pages for allowable values and associated FUNCTIONAL AREA CODE values. Note that the FUNCTIONAL AREA TITLE values are all left-justified with blank fill.

Special Considerations: This data element is used only in output reports. Design may place the element occurrences within program tables and reports only.

TABLE OF VALUES FOR
FUNCTIONAL AREA TITLE
WITH ASSOCIATED FUNCTIONAL AREA CODE

FUNCTIONAL AREA TITLE	FUNCTIONAL AREA CODE
GENERAL : STANDARDS WHICH APPLY TO NO SINGLE OTHER FUNCTIONAL AREA CODE	000
ELECTRICAL MATERIAL AND RELATED FITTINGS	011
FASTENERS AND JOINING PROCESSES	012
PIPING, PUMPS AND RELATED FITTINGS	013
RIGGING AND LIFTING GEAR	014
TESTS , TRAILS , AND MEASURING EQUIPMENT AND PROCEDURES	015
GENERAL MATERIAL CHARACTERISTICS	016
SAFETY (BOTH SHIPBOARD AND SHIPYARD)	017
MISCELLANEOUS MECHANICAL PARTS	018
MISCELLANEOUS	019
INSULATION, THERMAL AND ACOUSTIC AND LAGGING	020
DOCUMENTATION AND CERTIFICATION	021
TOOLS AND WORKSHOPS	022
STOWAGE	023
INSTRUCTION BOOKS, MANUALS AND MARKINGS	024
NOISE AND VIBRATION	025
STRUCTURE	100
PLATE	111
SHAPE	112
FORGINGS AND CASTINGS	113
HULL STRUCTURE JOININGS AND FASTENINGS	114
STRUCTURAL ASSEMBLIES	115
HULL OUTFIT	200
FOUNDATIONS	211
SEA CHESTS	212
UNDERWATER APPENDAGES (EXCEPT RUDDERS AND FINS)	213
HULL FITTINGS	214

FUNCTIONAL AREA TITLE	FUNCTIONAL AREA CODE
HULL OPENINGS	215
SOLID BALLAST	216
SURFACE PREPARATION AND COATINGS	217
PIPE AND CABLE PENETRATIONS	218
HULL EQUIPMENT	300
DECK EQUIPMENT	311
STEERING AND STABILIZING SYSTEMS	312
HULL PIPING (INCLUDING FUEL OIL)	313
ACCOMMODATIONS AND STEWARD'S OUTFIT	314
HEATING , VENTILATION, AIR CONDITIONS, AND REFRIGERATION SYSTEMS	315
NAVIGATION, COMMUNICATION, AND LIGHTING	316
FIRE DETECTION AND CHEMICAL EXTINGUISHING SYSTEMS	317
PROPULSION EQUIPMENT	400
MAIN PROPULSION EQUIPMENT	411
MAIN PROPULSION AUXILIARIES	412
ELECTRICAL POWER AND DISTRIBUTION	413
STEAM SYSTEMS	4 1 4
HYDRAULIC SYSTEMS	415
COMPRESSED AIR SYSTEMS	416
AUXILIARY POWER SYSTEMS	417
PROPULSION AUTOMATION REMOTE SENSING AND CONTROL ALARMS	418
CARGO AND OUTFIT EQUIPMENT	500
MECHANICAL CARGO HANDLING	511
CARGO ACCESS AND STOWAGE	512
CARGO ENVIRONMENTAL CONTROL AND INSTRUMENTATION	513
LIQUID CARGO HANDLING .	514
CARGO TANKS AND CONTAINMENT (SEPARATE FROM SHIP'S STRUCTURE)	515
CONSUMABLES, REPAIR PARTS, AND SPARES	600
ON-BOARD REPAIR PARTS	611
SHORE-BASED REPAIR PARTS	612
CONSUMABLE SUPPLIES	613

(Continued)

<u>FUNCTIONAL AREA TITLE</u>	<u>FUNCTIONAL AREA CODE</u>
SHIPYARD	700
CONSTRUCTION OPERATIONS	711
ENGINEERING AND DESIGN	712
CONTRCTS AND ADMINISTRATION	713

DATA ELEMENT DESCRIPTION

NAME : INDEX SUBJECT

DEFINITION: One of three possible subjects which may be assigned to a represented standard and under which the subject is referenced in the Standards Subject Index Report. (Reference also INDEX SUBJECT 1, INDEX SUBJECT 2, AND INDEX SUBJECT 3 data element descriptions) .

EDIT CRITERIA

Number of Character positions: 60

Format: Alphanumeric

Value: ANY. If the assigned value is less than 60 positions, the field should be left-justified with blank fill. If no value has been supplied for the occurrence, the field should consist of a specific repeated character to ensure it being grouped at the end of a subject-sorted list.

Special Considerations: The values of occurrences of this data element come from occurrences of INDEX SUBJECT 1, INDEX SUBJECT 2 and INDEX SUBJECT 3 data elements. This data element occurs only in the Standards Subject File and the report derived from that file.

DATA ELEMENT DESCRIPTION

NAME: INDEX SUBJECT NUMBER

DEFINITION: A number assigned to occurrences of INDEX SUBJECT 1, INDEX SUBJECT 2, and INDEX SUBJECT 3 data elements, which indicates the (actual or desired) relative position of the Index Subject within a given Standard Record.

EDIT CRITERIA

Number of Character positions: 1

Format: Numeric

Value: Must always be equal to one of the following:

<u>VALUE</u>	<u>MEANING</u>
1	- The associated Index Subject is (to be) INDEX. SUBJECT 1
2	- The associated Index Subject is (to be) INDEX SUBJECT 2
3	- The associated Index Subject is (to be) INDEX SUBJECT 3

Special Considerations: This data element is primarily used on transaction forms, transaction files and transaction reports. It is only meaningful in the context of add and modify transactions (TRANSACTION TYPE data element values 1 and 2, respectively), allowing only those Index Subject occurrences of interest to be specified and key entered.

DATA ELEMENT DESCRIPTION

NAME : INDEX SUBJECT 1

DEFINITION: The first of three possible subjects assigned to a given standard and under which the standard is referenced in the Standards Subject Index Report.

EDIT CRITERIA

Number of Character positions: 60

Format: Alphanumeric

Value: Any . If the assigned value is less than 60 positions, the field should be left-justified with blank fill. If no value is desired for the occurrence, the field should consist totally of blanks.

Special Considerations: Reference INDEX SUBJECT 2 and INDEX SUBJECT 3 data element descriptions. Also reference INDEX SUBJECT and INDEX SUBJECT NUMBER data element descriptions.

DATA ELEMENT DESCRIPTION

NAME: INDEX SUBJECT 2

DEFINITION: The second of three possible subjects assigned to a given standard and under which the standard is referenced in the Standards Subject Index Report.

EDIT CRITERIA

Number of Character positions: 60

Format: Alphanumeric

Value: Any. If the assigned value is less than 60 positions, the field should be left-justified with blank fill. If no value is desired for the occurrence, the field should consist totally of blanks.

Special Considerations: Reference INDEX SUBJECT 1 and INDEX SUBJECT 3 data element descriptions. Also reference INDEX SUBJECT and INDEX SUBJECT NUMBER data element descriptions.

DATA ELEMENT DESCRIPTION

NAME : INDEX = SUBJECT 3

DEFINITION: The third of three possible subjects assigned to a given standard and under which the standard is referenced in the Standards Subject Index Report.

EDIT CRITERIA

Number of Character Positions: 60

Format: Alphanumeric

Value: ANY. If the assigned value is less than 60 positions, the field should be left-justified with blank fill. If no value is desired for the occurrence, the field should consist totally of blanks.

Special Considerations: Reference INDEX SUBJECT 1 and INDEX SUBJECT 2 data element descriptions. Also reference INDEX SUBJECT and INDEX SUBJECT NUMBER data element descriptions.

DATA ELEMENT DESCRIPTION

NAME: MODIFICATION REQUIREMENT CODE

DEFINITION: A code assigned to each represented standard indicating the relative amount of modification required to the standard in its present state to achieve a high degree of usability for the U.S. shipbuilding industry.

EDIT CRITERIA

NUMBER of Character positions: 1

FORMAT: Numeric

Value: Must be equal to one of the following:

<u>VALUE</u>		<u>MEANING</u>
1	-	The standard requires major modifications which significantly affect the contained descriptions of materials, items or processes.
2	-	The standard requires only minor modifications which do not significantly effect the contained descriptions of materials. items or processes. In its-present form the standard may be usable in part.
3	-	The standard requires no modification to be totally usable.

Special Considerations: Reference also MODIFICATION REQUIREMENT TITLE data element description.

DATA ELEMENT DESCRIPTION

NAME : MODIFICATION REQUIRMENT TITLE

DEFINITION: The textual representation of a value assignable to an occurrence of the MODIFICATION REQUIREMENT CODE data element. (Reference MODIFICATION REQUIREMENT CODE data element description).

EDIT CRITERIA

Number of Character positions: 5

Format : Alphabetic

Value: Must always be equal to one of the following:

<u>VALUE</u>		MODIFICATION <u>REQUIREMENT CODE VALUE</u>
MAJOR	- 1	-
MINOR	- 2	
NONE	-3	

Special Considerations: This data element is used only on output reports. Design may place the element occurrences within program tables only.

DATA ELEMENT DESCRIPTION

NAME: NEW STANDARDS COUNT

DEFINITION : The number of Standards Records (and therefore represented standards) which are on the newly created Standards File.

EDIT CRITERIA

Number of character positions: 5

Format: Numeric

Value: An integer equal to or less than 99999

Special Considerations: This data element appears only within the Standards File Update Report. Reference also data element descriptions of OLD STANDARDS COUNT, STANDARDS ADDED COUNT, STANDARDS DELETED COUNT, and STANDARDS MODIFIED COUNT.

DATA ELEMENT DESCRIPTION

NAME : NUMBER OF STANDARD

DEFINITION: The identification and/or control "number" assigned to a given standard by its originating organization.

EDIT CRITERIA

Number of Character positions: 10

Format : Alphanumeric

Value: ANY. If the assigned value is less than 10 positions, the field should be left-justified with blank fill.

Special Considerations: This element is used as the second of three fields to form the unique identification of a Standard Record on the Standards File. Reference also ORGANIZATION CODE and YEAR OF REVISION data element descriptions.

DATA ELEMENT DESCRIPTION

NAME: OLD STANDARDS COUNT

DEFINITION : The number of Standards Records (and therefore represented standards) which are on the Old Standards File updated to create the New Standards **File**.

EDIT CRITERIA

Number of Character positions: 5

Format: Numeric

Value: An integer equal to or less than 99999

Special Considerations: This data element appears only within the Standards File Update Report. Reference also data element descriptions of NEW STANDARDS COUNT, STANDARDS ADDED COUNT, STANDARDS DELETED COUNT, and STANDARDS MODIFIED COUNT.

DATA ELEMENT DESCRIPTION

NAME: ORGANIZATION CODE

DEFINITION: Code representing the organization responsible for the origination and/or maintenance of a standard.

EDIT CRITERIA

Number of Character positions: 3

Format : Alphabet

Value: Must always equal one of the following:

<u>VALUE</u>	<u>MEANING (ORGANIZATION TITLE VALUE)</u>
JIS	JAPANESE STANDARDS ASSOCIATION
DIN	GERMAN INDUSTRIAL STANDARDS ASSOCIATION
ANS	AMERICAN NATIONAL STANDARDS INSTITUTE
AST	AMERICAN SOCIETY FOR TESTING AND MATERIALS
NEM	NATIONAL ELECTRICAL MANUFACTURES ASSOCIATION

Special Considerations: This element is used as the first of three fields to form the unique identification of a standard record on the Standards File. Reference also data elements NUMBER OF STANDARD and YEAR OF REVISION descriptions.

DATA ELEMENT DESCRIPTION

NAME: ORGANIZATION TITLE

DEFINITION: Textual representation of a value assignable to an occurrence of The ORGANIZATION CODE data element. (Reference ORGANIZATION CODE data element description).

EDIT CRITERIA

Number of Character Positions: 45

Format : Alphanumeric

Value: Must always equal one of the following:

<u>VALUE</u>		<u>ORGANIZATION CODE VALUE</u>
JAPANESE STANDARD ASSOCIATION	-	JSA
GERMAN INDUSTRIAL STANDARDS ASSOCIATION	-	DIN
AMERICAN NATIONAL STANDARDS INSTITUTE	-	ANS
AMERICAN SOCIETY FOR TESTING AND MATERIALS	-	AST
NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION	-	NEM

Special Considerations: This data element is used only in output reports. Design may place the element occurrences within program tables only.

DATA ELEMENT DESCRIPTION

NAME : POTENTIAL BENEFITS CODE

DEFINITION: A code assigned to each represented standard signifying the relative amount of benefits obtainable by the use of the standard with the U.S. shipbuilding industry.

EDIT CRITERIA

NUMBER of Character positions: 1

Format: Numeric

Value: Must always be equal to one of the following:

<u>VALUE</u>		<u>MEANING (POTENTIAL BENEFITS TITLE Value)</u>
1	-	MARGINAL
2	-	MODERATE
3	-	GREAT

special Considerations: Reference the POTENTIAL BENEFITS TITLE data element description.

DATA ELEMENT DESCRIPTION

NAME : POTENTIAL BENEFITS TITLE

DEFINITION: The textual representation of a value assignable to-an-occurrence of the POTENTIAL BENEFITS CODE data element. (Reference POTENTIAL BENEFITS CODE data element description).

EDIT CRITERIA

Number of Character positions: 8

Format: Alphanumeric

Value: Must be equal to one of the following:

<u>VALUE</u>	<u>POTENTIAL BENEFITS CODE Value</u>
NONE	0
MARGINAL	1
MODERATE	2
GREAT	3

Special Considerations: This data element is used only in output reports. Design May place the element occurrences within program tables only.

DATA ELEMENT DESCRIPTION

NAME : RECORD MODIFICATION DATE

DEFINITION: The date of the update run upon which the given record was most recently modified.

EDIT CRITERIA

Number of Character positions: 6

Format : Numeric

Value: yymmdd, where

y y - i s the last two digits of the year

mm - is the number of the month (01 through 12)

dd - is the day of the month (01 through 31)

Special Considerations: This element is used as control and historical information by those responsible for the administration of the NSSP Standards Locator System.

DATA ELEMENT DESCRIPTION

NAME : STANDARDS ADDED COUNT

DEFINITION: The number of Standards Records with unique identifications which were not on the previous Standards File and are now on the New Standards File.

EDIT CRITERIA

Number of Character positions: 4

Format: Numeric

Value: An integer equal to the number of "add" transactions applied to the updating of the Standards File. Note that the maximum allowable is 9999.

Special Considerations: This data element appears only within the Standards File Update Report: Reference also data element descriptions of NEW STANDARDS COUNT, OLD STANDARDS COUNT, STANDARDS DELETED COUNT and STANDARDS MODIFIED COUNT.

DATA ELEMENT DESCRIPTION

NAME : STANDARDS DELETED COUNT

DEFINITION : The number of Standards Records with unique identifications which were on the previous Standards File and are not on the New Standards File.

EDIT CRITERIA

Number of Character positions: 4

Format: Numeric

Value: An integer equal to the number of "delete" transactions applied to the updating of the Standards File. Note that the maximum allowable is 9999.

Special Considerations: This data element appears only within the Standards File Update Report. Reference also data element descriptions of NEW STANDARDS COUNT, OLD STANDARDS COUNT, STANDARDS ADDED COUNT and STANDARDS MODIFIED COUNT.

DATA ELEMENT DESCRIPTION

NAME : STANDARDS MODIFIED COUNT

DEFINITION: The number of Standards Records with unique identifications which, in the creation of the New Standards File, had their contents modified.

EDIT CRITERIA

Number of Character positions: 4

Format: Numeric

Value: An integer equal to or less than the Number of "modify" transactions applied to the updating of the Standards File.
Note that the maximum allowable is 9999.

Special Considerations: This data element appears only within the Standards File Update Report. Reference also data element descriptions of NEW STANDARDS COUNT, OLD STANDARDS COUNT, STANDARDS ADDED COUNT and STANDARDS DELETED COUNT.

DATA ELEMENT DESCRIPTION

NAME: STANDARD TYPE CODE

DEFINITION: A code assigned to each represented standard signifying either 1) the type of information contained within the standard or 2) the primary type of activity within the U.S. Shipbuilding Industry in which the standard would be used.

EDIT CRITERIA

Number of Character positions: 1

Format: Numeric

Value: Must be equal to one of the following:

<u>VALUE</u>	<u>MEANING</u>
1	The standard establishes definitions and/or classifications.
2	The standard is used primarily in design activities.
3	The standard is used primarily in production and/or operation activities.
4	The standard is used primarily in test and/or inspection activities.
5	The standard defines limits or boundaries (specifications) on the characteristics of materials, items, systems, etc.

Special Considerations: Reference the STANDARD TYPE TITLE data element description.

DATA ELEMENT DESCRIPTION

NAME : STANDARD TYPE TITLE

DEFINITION : The textual representation of a value assignable.
to an occurrence of the STANDARD TYPE CODE data element. (Ref-
erence STANDARD TYPE CODE data element description).

EDIT CRITERIA

Number of Character positions: 11

Format: Alphanumeric

Value: Must be equal to one of the following:

<u>VALUE</u>	<u>STANDARD TYPE CODE Value</u>
DEFØ&ØCLASS	1
DESIGNØØØØØ	2
PRØDØ&ØOPRØ	3
TESTØ&ØINSP	4
SPECØØØØØØØ	5

Special Considerations: This data element is used only in
output reports. Design may place the element occurrences
within program tables only.

DATA ELEMENT DESCRIPTION

NAME: SUBCOMMITTEE CODE

DEFINITION: A code assigned to those represented standards for which ASTM Committee F-25 has the responsibility to review and/or process. The value of the code indicates the specific F-25 subcommittee to which the standard is assigned.

EDIT CRITERIA

Number of Character positions: 2

Format: Alphanumeric

Value: Reference the table on the following page for the allowable values and their associated meanings/SUBCOMMITTEE TITLE Values.

Special Considerations: Reference SUBCOMMITTEE TITLE data element description.

TABLE OF VALUES FOR
SUBCOMMITTEE CODE
WITH ASSOCIATED SUBCOMMITTEE TITLE

SUBCOMMITTEE CODE	SUBCOMMITTEE TITLE
00	NO ASSIGNMENT
01	MATERIALS
02	COATINGS
03	OUTFITTINGS
04	HULL STRUCTURE
05	HEATING, VENTILATION, AND AIR CONDITIONING
06	SHIP CONTROL AND AUTOMATION
07	GENERAL REQUIREMENTS
08	DECK MACHINERY
09	SHIPBUILDING SUPPORT OPERATIONS
10	ELECTRICAL AND ELECTRONICS
11	MACHINERY
12	WELDING
13	PIPING SYSTEMS
91	LONG-RANGE PLANNING
92	EDITORIAL
93	TERMINOLOGY

DATA ELEMENT DESCRIPTION

NAME : SUBCOMMITTEE TITLE

DEFINITION: The title of an ASTM F-25 subcommittee represented by an occurrence of the SUBCOMMITTEE CODE data element. (Reference SUBCOMMITTEE CODE data element description).

EDIT CRITERIA

Number of Character positions: 45

Format: Alphabetic

Value: Reference the table on the following page for allowable SUBCOMMITTEE TITLE values and their associated SUBCOMMITTEE CODE values. Note that the SUBCOMMITTEE TITLE values are all left justified with trailing blank fill.

Special Considerations: This data element is used only in output reports. Design may the element occurrences within program tables only.

TABLE OF VALUES FOR
SUBCOMMITTEE TITLE
WITH ASSOCIATED SUBCOMMITTEE CODE

<u>SUBCOMMITTEE TITLE</u>	<u>SUBCOMMITTEE CODE</u>
NO ASSIGNMENT	ØØ
MATERIALS	Ø1
COATINGS	Ø2
OUTFITTINGS	Ø3
HULL STRUCTURE	Ø4
HEATING , VENTILATION, AND AIR CONDITIONING	Ø5
SHIP CONTROL AND AUTOMATION	Ø6
GENERAL REQUIREMENTS	Ø7
DECK MACHINERY	Ø8
SHIPBUILDING SUPPORT OPERATIONS	Ø9
ELECTRICAL AND ELECTRONICS	10
MACHINERY	11
WELDING	12
PIPING SYSTEMS	13
LONG-RANGE PLANNING	91
EDITORIAL	92
TERMINOLOGY	93

DATA ELEMENT DESCRIPTION

NAME : SYSTEM OF UNITS CODE

DEFINITION: A code assigned to each represented standard signifying the type of system of measurement units used within the standard.

EDIT CRITERIA

Number of Character positions: 1

Format: Alphabetic

Value: Must always be equal to one of the following:

<u>VALUE</u>		<u>MEANING</u>
M	-	Metric System or Systeme International
E	-	U.S. Customary System or British Imperial System
N	-	Not Applicable
U	-	Unknown
O	-	Other

Special Considerations: Reference also data element SYSTEM OF UNITS TITLE description.

DATA ELEMENT DESCRIPTION

NAME : SYSTEM OF UNITS TITLE

DEFINITION: Textual representation of a value assignable to an occurrence of the SYSTEM OF UNITS CODE data element. (Reference also ~~SYSTEM OF UNITS~~ CODE data element description).

EDIT CRITERIA

Number of Character positions: 9

Format: Alphabetic

Value: Must always equal one of the following:

<u>VALUE</u>	<u>SYSTEM OF UNITS CODE</u>
METRIC/SI	- M
ENGLISH SS	- E
NOT SS APPLC	- N
UNKNOWN SS	- U
OTHER SSSS	- O

Special Considerations: This data element is used only in output reports. Design may place the element occurrence within program tables only.

DATA ELEMENT DESCRIPTION

NAME : TITLE OF STANDARD

DEFINITION : The title of a given standard as assigned by the originating organization.

EDIT CRITERIA

Number of Character positions: 120

Format: Alphanumeric

Value: Any. If the title requires less than 120 positions, the field should be left-justified with blank fill.

Special Considerations: Wherever possible titles should be represented exactly as assigned by the originating organizations. Deviations from this should exist only due to excessive title length or the occurrence of special symbols which are not representable within the computer system.

DATA ELEMENT DESCRIPTION

NAME : TRANSACTION SEQUENCE NUMBER

DEFINITION: A sequential number assigned to transaction records on the Transaction File. This number is for reporting and position locating purposes.

EDIT CRITERIA

Number of Character positions: 4

Format: Numeric

Value: An integer between zero and the total number of Transaction Records on a given Transaction File. Note that the maximum value is 9999.

Special Considerations: This data element appears only within the Standards Transaction Edit Report.

DATA ELEMENT DESCRIPTION

NAME : TRANSACTION TYPE

DEFINITION: A code assigned to each standard update transaction which indicates the desired type of change to the contents of the Standards File.

EDIT CRITERIA

Number of Character positions: 1

Format: Numeric

Value: Must always be equal to one of the following:

<u>VALUE</u>		<u>MEANING</u>
1	-	Establish a New Standard Record (i.e., "Add")
2	-	Modify the content of an existing Standard Record (i.e., "Modify")
3	-	Delete an existing Standard Record (i.e., "Delete")

Special Considerations: This data element appears only on transaction forms, transaction files and transaction report.

DATA ELEMENT DESCRIPTION

NAME : UPDATE REJECTION CODE

DEFINITION: A code assigned to edited transactions rejected by the Standard File Update processing module.

EDIT CRITERIA

Number of Character positions: 2

Format: Alphabetic

Value: Must be one of the following:

<u>VALUE</u>	<u>MEAINING</u>
ES -	For "Add" transaction, the standard identification already exists
NS -	For "Modify" or "Delete" transaction, the standard identification does not exist

Special Considerations: This data **element** appears only with the Standards File Update Report.

DATA ELEMENT DESCRIPTION

NAME : YEAR OF REAFFIRMATION

DEFINITION: The year a given standard was reaffirmed.

EDIT CRITERIA

Number of Character positions:

Format: Numeric

Value: The last two digits of the represented year.

Special Considerations:

DATA ELEMENT DESCRIPTION

NAME : YEAR OF REVISION

DEFINITION: The year the particular revision of the represented standard was published.

EDIT CRITERIA

Number of Character positions: 2

Format : Numeric

Value: The last two digits of the represented year.

Special Considerations: This element is used as the third of three fields to form the unique identification of a Standard Record on the Standards File. Reference also ORGANIZATION CODE and NUMBER OF **STANDARD data element** descriptions.

APPENDIX D

RECOMMENDED F-25 SUBCOMMITTEE

GROUPINGS OF STANDARDS PROCESSED DURING PILOT PHASE

RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS OF STANDARDS PROCESSED DURING TASK S-20 PILOT PHASE

Introduction

In the course of Task S-20 an effort has been made to group standards processed during the Pilot Phase in accordance with the scopes of the various F-25 subcommittees. Because the subcommittees are in the early stages of defining their scopes, these groupings are of a very tentative nature. Some standards could not be reliably associated with any subcommittee; these are grouped separately.

Format

The standards in each subcommittee-related group are further organized by subject category. Designation, dates of revision and reaffirmation, and title are listed for each standard. The designation consists of a three letter organization code¹ and the organizations number for the standard. Organization codes are as follows:

ANS - American National Standards Institute
AST - American Society for Testing and Materials
BV - Bremer Vulkan (German Shipyard)
DIN - German Standards Institute
JIS - Japanese Standards Institute
NEM - National Electric Manufacturer's Association
PWS - Rheinstahl Nordseewerke (German Vendor)

¹Organization codes are in accordance with National Bureau of Standards Publication 329, An Index of U.S. Voluntary Engineering Standards.

NSSP PILOT PHASE
RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE : .01 - Materials

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

ALUMINUM

ANS H35.1 75 Alloy and Temper Designations for Aluminum

CANVAS

JIS F3440 58 76 Application Standard of Ship's Canvas

PLASTIC

AST D707 70A Cellulose Acetate Butyrate Molding and
Extrusion Compounds

AST D883 75A Plastics, Definitions of Terms Relating to-
(ANS X65 .51-71)

AST D1248 74 Polyethylene Plastic Molding and Extrusion
Material Specification

AST D1600 75 Abbreviations Relating to Plastics

AST D1784 75 Rigid Polyvinyl Chloride Compounds and
Chlorinated PVC Compounds

AST D1788 73 Rigid Acrylonitrile - Butadiene - Styrene
Plastic Specification (ANS K65. 205)

NSSP PILOT PHASE
RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE : .03 - Outfitting

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

ANCHOR AND FITTINGS

JIS F2015	75	Cast Steel Dog-Type Anchor Chain Cable Stoppers
JIS F2016	76	Cast Steel Pawl-Type Anchor Chain Cable Stoppers for Grade 2 Anchor Chain Cable
JIS F2027	76	Rollered Pawl-Type Anchor Chain Cable Stoppers for Grade 2 Anchor Chain Cable
JIS F2028	76	Rollered Dog-Type Anchor Chain Cable Stoppers for Grade 2 Anchor Chain Cable
JIS F3301	75	Anchors

BITT, BOLLARD AND CLEAT

DIN 81921	69	Belaying Cleats for Fibre Rope
BV HD62054	72	Bollards; Summary
JIS F2001	75	Bollards
JIS F2051	76	Double Type Cross Bitts for Tugboat

BLOCK

JIS F3419	73	Ships' Steel Blocks with Swivels for Fibre Rope Guy
JIS F3421	73	ships ' Cargo Lifting Steel Blocks
JIS F3422	73	Ships' Snatch Blocks
JIS F3423	73	Ships' External-Bound Blocks
JIS F3424	73	Ships' Steel Blocks for Fibre Rope Guy
JIS F3426	73	Ships' Internal Bound Blocks
JIS F3427	73	Ships' Steel Blocks for Topping Units
JIS F3428	73	Ships' Cargo Lifting Cast Steel Blocks with Roller Bearings
JIS F3429	73	Ships' Cargo Lifting Steel Blocks with Roller Bearings
JIS F3443	74	Ships' Small Size Steel Blocks
JIS F3992	66	75 Dredgers' Sheaves for General Use

BOOM

JIS F2201	75	Ships' Steel Plate Derrick Booms
JIS F2251	76	Ships' Light Load Derrick Booms

NSSP PILOT PHASE
RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE : .03 - Outfitting

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

BOOM FITTINGS

BV 72210-1	70	Gooseneck Bearings for Light Derricks
BV 72210-2	70	Gooseneck Bearings for Light Derricks and for Guys of Heavy Derricks
JIS F2203	73	Ships' Derrick Gooseneck Brackets
JIS F2205	76	Boom Rest Headpieces

CARGO HOOK SWIVEL

DIN 82018	71	Cargo Hook Swivels
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CARGO LASHING

JIS F2101	76	Turnbuckles for Cargo Lashing
JIS F2102	75	Lumber Lashing Chains

CHAIN, GENERAL PURPOSE

JIS F2106	76	Ships' Chains for General Purpose
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CHAIN, LASHING

JIS F2102	75	Lumber Lashing Chair
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CHAIN, RETAINING

JIS F3906	75	Ships' Chainlets
JIS F3907	75	Ships' Rings of Chainlets
JIS F3908	75	Ships' Eye Plates for Chainlets

CHOCK

DIN 81915	69	Multi-Purpose Chocks
HMN 45002-1	72	Roller Chock; Summary
JIS F2003	68	Cast Iron Deck End Rollers
JIS F2004	76	Steel Plate Deck End Rollers
JIS F2005	75	Closed Chocks
JIS F2017	75	Panama Chocks

NSSP PILOT PHASE
RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE: .03 - Outfitting

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

CLEAT

JIS F3414	74		Horn Cleats
JIS F3416	74		Ships' Derrick Guy Cleats

DOOR

DIN 83100-1	69		Heavy Hinged Doors on Ships; Classification, Technical Terms of Delivery
DIN 83100-2	69		Heavy Hinged Doors on Ships; Directives for Construction
DIN 83100-3	67		Heavy Hinged Doors on Ships; Installation
DIN 83101	69		Heavy Hinged Doors on Ships, Type 1; Height of Coaming 600 and 400 mm, Weatherproof
DIN 83102	69		Heavy Hinged Doors on Ships, Type 2; Height of Coaming 200 mm
DIN 83103	69		Heavy Hinged Doors on Ships, Type 3; Height of Coaming 200 mm
JIS F2305	75		Ships' Non-Watertight Steel Doors
JIS F2314	68	71	Watertight Sliding Doors

DOOR FITTINGS

JIS F2315	68	77	Ships' Watertight Sliding Door Indicators
JIS F2330	75		Fitting for Small Ships' Weathertight Steel Door

FAIRLEAD

DIN 81906	72		Redestal Fairleads (Old Man Fairleads)
BV HM45002	72		Roller Chock; Summary
JIS F2014	69	75	Fairleads
JIS F2022	67	70	Ships' Horizontal Rollers
JIS F2024	75		Ships' 'Small Size Stand Rollers
JIS F2026	76		Fairieads with Horizontal Rollers
RNS A56-	72		Pedestal Fairleads with Foundation
197500			Cylindric
RNS A56-	72		Pedestal Fairleads with Foundation
197550			Tapered

NSSP PILOT PHASE
RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE : .03 - Outfitting

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

FLAGS AND FITTINGS

BV 72101	74	Staff for Jack and Stern Flags
JIS F3425	68	Ships' Steel Blocks for Signal Flags

GASKET, MANHOLE COVER

DIN 83403	74	Sealing for Manhole Covers for Bunkers on Ships
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GOOSENECK BRACKET

BV 72210-1	70	Gooseneck Bearings for Light Derricks
BV 72210-2	70	Gooseneck Bearings for Light Derricks and for Guys of Heavy Derricks
JIS F2203	73	Ships Derrick Gooseneck Brackets

HANDRAIL AND STANCHION

DIN 81702	73	Steel Guard Rails on Deck for Cargo Ships; Assembly, Stanchions, Rail Brace	
DIN 83204	73	Ladders and Hand Rails in Ships' Engine Rooms and Boiler Rooms; Main Dimensions, Fundamental Requirements	
DIN 83205-1	73	Railing in Ships' Engine Rooms and Boiler Rooms; Assembly, Stanchions	
JIS F2606	58	64	Ships' Wooden Handrails
JIS F2607	75		Ships' Handrail Stanchions

HATCH

DIN 83404-1	73	Small Hatchways, Assembly
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HATCH COAMING

DIN 83404-2	73	Small Hatchways, Coaming
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HATCH COVER

DIN 83404-3	73	Small Hatchways, Covers	
JIS F2320	69	75	Oiltight Hatch Covers

HATCH COVER, WRENCH

JIS F2323	76	Ships Ratched Spanners
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NSSP PILOT PHASE
RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE : .03 - Outfitting

DESIGNATION YR.
OF STANDARD REV REAFR TITLE

HATCH FITTINGS

JIS F2302	74		Hatch Battens
JIS F2303	74		Hatch Wedges
JIS F2313	68	77	Hatch Boards
JIS F2319	68	77	Hatch Locking Bars
JIS F2326	65	77	Simple Type Hatch Cleats
JIS F2327	67	76	Marking of Hatch Boards
JIS F2328	75		Marking of Hatchway Beams
JIS F2412	56	77	Air Hatch Covers

HOOK SWIVEL

DIN 82018	71		Cargo Hook Swivels
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LADDER

ANS A14. 3	74		Safety Requirements for Fixed Ladders
BV 37200	72		Ladders on Ships; Suummary of Types, Installation
BV 37201-1	72		Ladders; Light Ladders with Supports
BV 37201-2	72		Ladders, Medium Type Ladders with Supports
BV 37201-3	72		Ladders, Heavy Ladders
DIN 83202-1	73		Ladders, Light Type
DIN 83202-2	73		Ladders, Heavy Type
DIN 83203	71		Square Bar Single Steps for Walls and Masts on Ships
DIN 83204	73		Ladders and Hand Rails in Ships' Engine Rooms and Boiler Rooms; Main Dimensions, Fundamental Requirements
DIN 83206-1	74		Stairs in Ships' Engine Rooms and Boiler Room; Assembly
JIS F2601	75		Ships' Footsteps
JIS F2602	75		Ships' Steel Vertical Ladders
JIS F2603	70	76	Steel Deck Ladders
JIS F2605	75		Steel Accommodation Ladders for Small Ships

NSSP PILOT PHASE
RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE: .03 - Outfitting

<u>DESIGNATION</u>	<u>YR.</u>	<u>YR.</u>	
<u>OF STANDARD</u>	<u>REV</u>	<u>REAFR</u>	<u>TITLE</u>

LADDER (Continued)

JIS	F2612	67		Steel Wharf Ladders
JIS	F2613	76		Aluminum Alloy Wharf Ladders
JIS	F2614	67	76	Bulwark Ladders
JIS	F2615	69	75	Pilot Ladders
JIS	F2617	74		Embarkation Ladders
JIS	F2618	74		Aluminum Alloy Accommodation Ladders
BV	WW33422	74		Exterior Ladders with Balustrade

MANHOLE, HANDHOLE AND TANK CLEANING HOLE

BV	34601-1	66		Handhole Covers; Nominal Size 300 and 400
DIN	83402-1	72		Manhold Covers for Bunkers and Tanks on Ships; Assembly, Installation
DIN	83402-2	72		Manhole Covers for Bunkers and Tanks on Ships; Frame, Cover
DIN	83403	74		Sealing for Manhole Covers for Bunkers and Tanks on Ships
JIS	F2304	70	76	Ships' Manholes
JIS	F2329	75		Ships' Small Size Manholes
JIS	F2331	75		Covers for Tank Cleaning Holes

PADEYE

DIN	82024	71		Round Eye Plates
DIN	82025	71		Oval Eye Plates
JIS	F3410	74		Ships' Eye Plates
JIS	F3415	74		Ships' Wire Rope Stay Eye Plates

PIPE CAP WRENCH

JIS	F3004	62	77	Pipe Head Spanners (Tee Wrench)
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PLATFORM, PILOT

JIS	F2616	74		Panama Canal Pilot Platforms
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NSSP PILOT PHASE
RECOMMENDED F-25 SUBCOMMITTEE GROUPING

SUBCOMMITTEE : .03 - Outfitting

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

SCUPPER

BV 4210	71	Scuppers, Summary of Types
BV 42102	71	Scuppers with Strainer
BV 42103	71	Scuppers for Accommodation
BV 42104	71	Scuppers for Between-Decks in Engine-Rooms and Cargo Holds,
BV 42105	72	Scuppers; Open Type for Free Decks
BV 42106	74	Scupper; Sponsons

SCUTTLE, ROPE

JIS F2010	70	76	Ships' Rope Hole Covers
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SIGNAL LAMP.

JIS F8455	64	76	Daylight Signalling Lamps for Marine Use
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SHACKLE , MOORING BUOY

JIS F3306	76	Buoy Shackles
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SOUNDING PIPE AND FITTINGS

DIN 86111	70	Weld-in Deck Screw Caps for Filling and Sounding Pipes	
DIN 86114	70	Screw-on Caps with Flap for Filling and Sounding Pipes	
DIN 86115	70	Caps with Flap Screwed on Deck for Filling and Sounding Pipes	
DIN 86120	70	Sounding Pipe Plug Valves	
DIN 86129	74	Plug Screws and Flat Sealing Rings for Weld-in Screw Caps for Filling and Sounding Pipes	
JIS F3001	68	77	Hinged Cap of Sounding Pipe
JIS F3018	75	Short Sounding Pipe Heads of Self-Closing Parallel Cock Type	

SWIVEL, CARGO HOOK

DIN 82018	71	Cargo Hook Swivels
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NSSP PILOT PHASE
RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE: .03 - Outfitting

DESIGNATION YR. YR.
OF STANDARD REV REAFR T I T L E

SWIVEL FITTING

BV 72210-1	70	Gooseneck Bearings for Light Derricks
BV 72210-2	70	Gooseneck Bearings for Light Derricks and for Guys of Heavy Dericks
BV 72220-1	70	Span Bearings for Single Shear Pin 4 to 25mm
BV 72220-2	70	Span Bearings for Double Shear Pins 16 to 32 mm
BV 82048	71	Double Yoke Pieces for Span Trunnion
JIS F2202	73	Ships' Derrick Topping Brackets
JIS F2203	73	Ships' Derrick Gooseneck Brackets

TAILSHAFT

AST B492	70	Cast Copper-Nickel Ship Tailshaft Sleeve
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TOPPING LIFT FITTINGS

BV 72220-1	70	Span Bearing for Single Shear Pin 4 to 25mm
BV 72220-2	70	Span Bearing for Double Shear Pin 16 to 32mm
BV 82048	71	Double Yoke Pieces for Span Trunnion
JIS F2202	73	Ships' Derrick Topping Brackets
JIS F3414	74	Horn Cleats
JIS F3427	73	Ships' Steel Blocks for Topping Units
JIS F3435	74	Ships' Wire Nippers for Topping Lifts
JIS F3442	70	Ships' Small Size Wire Nippers for Topping Lift

ULLAGE TRUNK

JIS F2317	75	Ships Ullage Holes
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WATER COOLER

ANS A112. 11-1	68	Selfcontained Refrigerated Drinking Water Coolers
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WHISTLE

JIS F2704	67 76	Fittings for Steam Whistle
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NSSP PILOT PHASE
RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE : .03 - Outfitting

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

WINDOW AND LIGHT (AND COVERS)

DIN 81600-11	73		Ships' Side Scuttles (ISO-Type); Summary of Types
DIN 81600-12	73		Ships' Side Scuttles (ISO-Type); Technical Terms of Delivery
DIN 81650-1	73		Rectangular Windows for Ships; Summary of Types
DIN 81650-2	67		Rectangular Windows for Ships; Technical Terms for Delivery
DIN 81650-3	73		Rectangular Windows for Ships; Directions for Construction
JIS F2404	75		Ships' Light Construction Non-Opening Scuttles
JIS F2410	55	69	Tempered Glasses for Ships' Scuttles
JIS F2412	5 6	77	Air Hatch Covers
JIS F2414	68	77	Ships' Sliding Windows
JIS F2419	64	76	Ships' Galley Windows
JIS F2421	69	75	Ships' Fixtured Aluminum Alloy Rectangle Windows

WRENCH

JIS F2323	76		Ships' Wrench Spanners
JIS F3004	62	77	Pipe Head Spanners (Tee Wrench)

NSSP PILOT PHASE

RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE: .05 - Heating, Ventilation, and Air Conditioning

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

DUCT, AIR

BV 34911 73 Covers for Cleaning Holes in Air Ducts.

REFRIGERATION

ANS B9.1 71 Mechanical Refrigeration Safety Code
ANS B31.5 74 Refrigeration Piping, Code for
ANS B59.1 64 Mechanical Refrigeration on Shipboard, Practice
for (ASHRAE 26-63)
ANS B60.1 66 Test Method for Thermostatic Refrigeration Value
JIS F2336 74 Ships Fiberglass Reinforced Plastic Doors for
Provisions Refrigerating Chambers

VENTILATOR

JIS F2408 74 Gooseneck **Ventilators**
JIS F2409 75 Cowlhead Ventilators
JIS F2415 68 Ships' Wall Ventilators
JIS F2902 60 Ships' Punkah-Louvers

NSSP PILOT PHASE
RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE: .06 - Ship Control and Automation

DESIGNATION YR. - YR.
OF STANDARD REV REAFR TITLE

CLINOMETER

JIS F3613 58 76 Ships' Clinometers

ENGINE ORDER TELEGRAPH

JIS F2703 66 Mechanical Telegraphs

RADIO

ANS C63.2 63 69 Radio Noise and Field-Strength Meters

ANS C95.2 66 74 Radio-Frequency Radiation Hazard Symbol

ANS S307 73 Method for Coupler Calibration of Earphones

STEERING FITTINGS

JIS F2008 68 77 Spindle Type Hand Steering Gears

JIS F2009 65 77 Ships Hand Steeringwheels

JIS F2011 68 77 Chain Type Hand Steering Gears

JIS F2013 68 77 Leading Blocks for Chain Type Hand Steering Gear

NSSP PILOT PHASE
RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE : .08 - Deck Machinery

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

CONVEYOR

ANS B20.1 72 Safety Standard for Conveyors and Related Equipment

CRANE

ANS B30.2. O 67 Overhead and Gantry Crane Safety Code

DERRICK

ANS B30.2.O 67 Overhead and Gantry Cranes, Safety **Code**

DERRICK FITTINGS

JIS F3416 74 Ships' Derrick Buy Cleats

DUMBWAITER AND ELEVATOR

ANS A17.1 71 Safety Code for Elevators, Dumbwaiters,
Escalators, and Moving Walks. (Includes Sup-
plements a-f)

HOIST

ANS B30.2.O 67 Overhead and Gantry Crane Safety Code

REEL, MOORING WIRE ROPE

JIS F3430 74 Ships' Wire Reels

STEERING FITTINGS See .06 - STEERING FITTINGS

NSSP PILOT PHASE
RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE: .10 - Electrical and Electronic

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

BUZZER

JIS F8502 58 76 Marine Electric Buzzers

CABLE HANGER

JIS F8805 63 75 Electric Cable Hangers axial Saddles for Marine Use

FLOODLIGHT

JIS F8417 65 77 Floodlighting Projectors for Marine Use

GENERATOR

NEM MG-1-72 74 Motors and Generators NEMA Standards

HANGER, ELECTRIC CABLE

JIS F8805 63 75 Electric Cable Hangers and Saddles for Marine Use

HANGER, PIPE AND CABLE

BV 47818 73 Pipe and Cable Clamps, Type Fischer SCH; Applications

LIGHTING

JIS F8402 63 76 Glass Globes for Marine Electric Lights

JIS F8436 64 Fluorescent Ceiling Lights for Marine Use (Not Watertight Type)

JIS F8437 64 73 Fluorescent Ceiling Lights for Marine Use (Watertight Type)

MEASUREMENT, ELECTRIC

ANS C39.1 72 Requirements for Electrical Analog Indicating Instruments

PIPE AND CABLE HANGER

BV 47818 73 Pipe and Cable Clamps, Type Fischer SCH; Applications

RADIO

See .06 - RADIO

NSSP PILOT PHASE

RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE : .11 - Machinery

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

CHAIN, ROLLER

ANS B29. 1 63 72 Transmission Roller Chains and Sprocket Teeth
GEAR

ANS B6. 1 68 74 Tooth Proportion for Coarse Pitch Involute
Spur Gears

ANS B6.7 67 74 Tooth Proportions for Fine Pitch Involute
Spur and Helical Gears

ANS B6.9 56 62 Design for Fine Pitch Worm Gear

ANS Y14. 7-1 71 Gear Drawing for Helical and Rack Part 1 & 2

SHAFT

ANS B3.8/ 68 Mounting Ball and Roller Bearings
ANS B3.17

SPROCKET , ROLLER CHAIN

ANS B29.1 63 72 Transmission Roller Chain and Sprocket Teeth

UPTAKE

BV 06201 64 Welded Steel Tubes for Exhaust Gas Pipes

BV 25014 64 Plain Welding Flanges for Exhaust Gas Pipes

BV 34912 72 Covers for Cleaning Holes in Smoke Tubes

BV 84110-1 72 Expansion Pieces for Smoke-Gas Canal

BV 84110-2 73 Expansion Pieces in Duel-Draught Smoke Pipes

BV 84110-3 72 Expansion Pieces in Relief-Boiler Chimney

BV 84110-4 72 Expansion Pieces in Air Canals

BV 84110-5 73 Expansion Pieces in Single-Draught Smoke Pipes

NSSP PILOT PHASE

RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE : .12 - Welding

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

WELDING, PIPE

ANS B16. 25 72 Buttwelding Ends, 3 to 24 Inch Pipe

NSSP PILOT PHASE

RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE : .13 - Pipe Systems

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

BENDING, PIPE AND TUBING See PIPE BENDING

CEMENT, PLASTIC PIPE See PLASTIC PIPE CEMENT

COUPLING, FIRE HOSE

ANS B26 25 53 Fire-Hose Coupling Screw Threads

COUPLING , HOSE

ANS B2.4 74 **Hose** Coupling Screw Threads

DRAIN, FLOOR

ANS B112. 68 Floor Drains
21-1

DRAIN, ROOF

ANS A112. 71 Roof Drains
21-2

DRAINAGE, FITTINGS

ANS B16 .12 71 Cast Iron **Threaded Drainage Fittings**
ANS B16. 23 69 Cast Bronze Solder Joint Drainage Fittings -
ANS B16.23a 73 DWV Supplement to B16.23-69
ANS B16.29 73 Wrought Copper and Alloy Solder Joint Fittings
BV 44060 70 Drain Hat with Strainer Plate
DIN 87160-1 55 Steel Suction Filter; Nominal Diameter 40 to 150;
Arrangement
DIN 87721-1 56 Run-Off Drain, Screw Plug Type; Arrangements
and Parts List
DIN 87721-2 56 Run-Off Drain. Screw Plug Type; Screw-Plugs,
Welding Plates

FIRE FIGHTING FITTINGS

ANS B26 25 53 Fire-Hose Coupling Screw Thread
DIN 86201 67 Fittings for International Shore Connection **of**
Fire-Fighting Installations on Ship; Nominal
Pressure 16

NSSP PILOT PHASE
RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE : .13 - Pipe Systems

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

FIRE FIGHTING FITTINGS (Continued)

DIN 86202	69	Delivery Fire Hose Coupling Type C, Brass; Nominal Pressure 16, For use on Ships
DIN 86203	69	Delivery Fire Hose Coupling Type B, Brass, Nominal Pressure 16, for use on Ships
DIN 86204	69	Solid Fire Hose Coupling Type C, Nominal Pressure 16; Brass; for use on Ships
DIN 86205	69	Solid Fire Hose Coupling Type B, Nominal Pressure 16; Brass; for use on Ships

FLANGE

ANS B16.1	75	Cast Iron Pipe Flanges and Flanged Fittings, Class 25, 125, 250, and 800
ANS B16.24	71	Bronze Flanges and Flanged Fittings, 150 and 300 lb.
BV 2503	73	Flanges of Cast Iron with Globular Graphite; Nominal Diameter 700 to 1000; NP 25 Design
BV 25011	73	Plain Welding Flanges, Mating Dimensions Acc. to Nominal Pressure 10
BV 25020-1	72	Slip-on Flange; Nominal Pressure 11
BV 25020-2	72	Slip-on Flange; Nominal Pressure 16
BV 25041	70	Welding Neck Flanges with Projection and Recess; Nominal Pressure 41
BV 25101	66	Spectacle Flanges, Nominal Pressure 16 Nominal Diameter 200 to 500
BV 25122	73	Soldered Flanges for Tubes of Copper and Copper Alloys; Nominal Pressure 16
BV 25150	73	Loose Flanges with Band Casing for Piping of Hard PVC; Yards Selection
DIN 2527	72	Blind Flanges; Nominal Pressure 6 to 100
DIN 2530	67	Cast Iron Flanges, Nominal Pressure 2.5
DIN 2531	67	Cast Iron Flanges; Nominal Pressure 6
DIN 2532	67	Cast Iron Flanges; Nominal Pressure 10

NSSP PILOT PHASE
RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE : .13 - Pipe Systems

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

FLANGE (Continued)

DIN 2533	67	Cast Iron Flanges, Nominal Pressure 16
DIN 2535	67	Cast Iron Flanges, Nominal Pressure 40
DIN 2543	68	Cast Iron Flanges, Nominal Pressure 16
DIN 2545	68	Cast Iron Flanges, Nominal Pressure 40
DIN 2546	69	Cast Steel Flanges, Nominal Pressure 64
DIN 2547	69	Cast Steel Flanges, Nominal Pressure 100
DIN 2548	69	Cast Steel Flanges, Nominal Pressure 100
DIN 2549	69	Cast Steel Flanges, Nominal Pressure 250
DIN 2550	69	Cast Steel Flanges, Nominal Pressure 320
DIN 2551	69	Cast Steel Flanges, Nominal Pressure 400
DIN 28604	70	Ductile Cast Iron Pressure Pipes and Special Castings; Flanges, Nominal Pressure 10, Design
DIN 28605	70	Ductile Cast Iron Pressure Pipes and Special Castings; Flanges, Nominal Pressure 16, Design
DIN 28606	70	Ductile Cast Iron Pressure Pipes and Special. Castings; Flanges, Nominal Pressure 25, Design
DIN 28607	70	Ductile Cast Iron Pressure Pipes and Special Castings; Flanges, Nominal Pressure 40, Design
DIN 86021	66	Cast Flanges of Copper Alloys; Nominal Pressures 10 to 16
DIN 86033	66	Soldered Flanges for Tubes of Copper and Copper Alloys; Nominal Pressures 10 to 16
DIN 86036	66	Lapped Flanges Brazing Collar for Tubes of Copper and Copper Alloys; Nominal Pressures 10 to 16
DIN 86037	68	Lapped Joint Short Stub End for tubes of Copper Alloys;. Nominal Pressures 10 to 16
DIN 86042	66	Spectacle Flanges, Nominal Pressure 10 to 16

GASKET, FUEL LINE

BV 26202-2	73	Sealings for Fuel Service Lines, Nominal Pressure 40
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GASKET, PIPE FLANGE

ANS B16.20	73	Ring Joint Gaskets and Grooves for Steel Pipe Flanges
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NSSP PILOT. PHASE
RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE: .13 - Pipe System

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

GASKET, PIPE FLANGE (Continued)

ANS	B16.21	72	Nonmetallic Gaskets for Pipe Flanges
BV	26201	73	Full Face Gaskets for Flanges, Nominal Pressure 6 to 16
BV	26202-1	73	Sealings for Flanges with Plain Contact Surfaces, Nominal Pressure 6 to 40
BV	26202-2	73	Sealings for Fuel Oil Service Lines, Nominal Pressure 40
DIN	86071	70	Full Face Gaskets for Flanges, Nominal Pressure 6 to 16

HANGER, PIPE

BV	4780-2	68	Pipe Clamps of Steel; Examples of Application for Support
BV	47801	73	Pipe Clamps for Heating Pipes
BV	47802-1	71	Pipe Clamps
BV	47802-2	71	Pipe Clamps, with Welding Lap
BV	47804	74	Pipe Clamps with Pipe-tightening Double-ended
BV	47806	70	Pipe Holder for Heating Pipe for Nominal Diameter 32 to 65
BV	47807	67	Pipe Clamps, Two-Sided, Single-Ended
BV	47809	68	Pipe Holders for Pipes, Nominal Diameters 6 to 12
DIN	1592	67	Heavy pipe Clamps with pipe-tightening; Single-ended
DIN	1593	67	Heavy Pipe Clamps with Pipe-tightening; Double-ended
DIN	3570	70	Bolt Clamps for Pipes with Nominal Diameters 20 to 500
DIN	86016	73	74 Pipe Clamps of Steel for Pipes of Hard PVC
JIS	F3021	68	77 Ships' Steel Pipe Bands (Hangers)

HANGER, PIPE AND CABLE - See .10

HANGER, PARTS, PIPE

BV	47820	74	Cushion Insert for Pipe Clamps According to DIN 86016
BV	47821	68	Clearance Washers for Slide clamps

NSSP PILOT PHASE
RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE : .13 - Pipe Systems

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

HANGER, PARTS, PIPE (Continued)

BV 47830	71	Spring Assembly for Pipe Hangers
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HOSE COUPLING

ANS B2.4	74	Hose Coupling Screw Threads
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HYDRAULIC TUBING AND FITTINGS

ANS B93.4	69	Resistance Welded Mandrel
ANS B93.11	69	Seamless Low Carbon Steel Hydraulic Tubing
ANS B116.1	74	Hydraulic Tube Fittings
ANS B117.1	74	Hydraulic Flared Tube, Pipe, and Hose Connections, Four Bolt Split Flange Type

INSULATED TUBE

BV 08832	73	Insulated Copper Tubes for Capillar Soldered Joints, Selection for Ships Pipe Lines
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PENETRATION, PIPE

BV 46005	7 2	Tube Collar for Pipe Penetration Through Deck Openings
BV 46008	73	Penetration Fittings for Steel Pipe; Straight Sockets with Flanges; Mating Dimensions for Flanges Acc. to NP10
BV 46009	73	Penetration Fittings for Steel Pipes; Elbow Sockets with Flanges; Mating Dimensions for Flanges Acc. to NP11
BV 46010	73	Penetration Fittings for Steel Pipes; Straight Sockets with Flanges; Mating Dimensions for Flanges Acc. to NP16
BV 46011	73	Penetration Fittings for Steel Pipes; Elbow Sockets with Flanges Mating Dimensions for Flanges Acc. to NP16
BV 46020-1	70	Deck Penetration for pipes, Watertight, Arrangement
BV 46022	74	Scot Penetration for 8x1 Tubing of Straight Steel
BV 46030	66	Blends for Pipe Penetration

NSSP PILOT PHASE
RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE : .13 - Pipe Systems

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

PENETRATION, PIPE (Continued)

JIS	F3009	75		Ships 5KGF/CM ² and 10KGF/CM ² Deck and Bulkhead Pieces for Pipe Connection
JIS	F3027	72	75	Ships' Deck and Bulkhead Pieces for Small Size Copper Pipe

PIPE, METAL

ANS	A21.12	71		2 and 2 1/2 Inch Centrifugally Cast Iron Pipe
ANS	A21.50	71		Thickness of Ductile Iron Pipes
ANS	A21.51	71		Centrifugally Cast Ductile Iron Pipe for Water or Other Liquids (AWWA C150-71)
ANS	A21.52	71		Centrifugally Cast Ductile Iron Pipe for Gas (AWWA C151-70)
ANS	B31.1	77		Power Piping Code
ANS	B31.1A	77		Power Piping Code Addenda
ANS	B31.1B	78		Power Piping Code Addenda
ANS	B36.10	75		Welded and Seamless Wrought Steel Pipe
ANS	B36.19	65	71	Stainless Steel Pipe
ANS	B125.30	72		Seamless Carbon Steel Pipe for Higher Temperature Service
BV	06001-1	71		Seamless Steel Tubes Acc. to DIN 2448; Tubes of St35 for Pipe Lines; Yards Selection
BV	06002-1	72		Seamless Steel Tubes Acc. to DIN 2448; Tubes of St35.8 for Pipe Lines; Yards Selection
BV	06111-1	71		Seamless Precision Steel Tubes; Yards Selection

PIPE, PLASTIC

AST	D1503	73		Cellulose Acetate Butyrate Plastic Pipe Schedule 40, Specification for
AST	D1527		73A	Acrylonitrile - Butadiene - Styrene (ABS) Plastic Pipe Schedule 40-80
AST	D1598		74A	Time-to-Failure of Plastic Pipe Under Internal Pressure - Test
AST	D1598		74E	Time-to-Failure of Plastic Pipe Under Internal Pressure - Test
AST	D1599		74	Short - Time Rupture Test for Plastic Pipe, Tubing, Fittings

NSSP PILOT PHASE
RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE : .13 - Pipe Systems

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

PIPE, PLASTIC (Continued)

AST	D1694	67	72	Threads for Reinforced Thermosetting Plastic Pipe
AST	D1785	74E		Polyvniyl Chloride and Chlorinated Polyvinyl Chloride Pipe
AST	D2104	74		Polyethylene (PE) Plastic Pipe Schedule 40 Specifications
AST	D2105	67	73	Longitudinal Tensile Properties of Reinforced Plastic Pipe
AST	D2122	70		Determining Dimensions of Thermoplastic Pipe and Fittings
AST	D2143	69		Cyclic Pressure Strength of Reinforced Thermoset Plastic Pipe
AST	D2152	67	72	Quality of Extruded PVC Pipe by Acetone Imersion Test
AST	D2153	67	72	Calculated Stress in Plastic Pipe Under Internal Pressure
AST	D2239	74		Polyethylene (PE) Plastic Pipe (SDR-PR) . Specification for (ANS B72.1 - 75)
AST	D2241	74		PVC and CPVC Plastic Pipe Specification
AST	D2282	73A		ABS Plastic Pipe Specification
AST	D2290	75		Tensile Strength for plastic Pipe by Split Ring Method

PIPE BENDING

BV	06400	71		Seamless Steel Bends for Butt-welding; Tube Bends of Steel
BV	06404	73		Seamless Tube Bends for Butt-welding; Tube Bends of Steel; Radius 1D
BV	08880-2	71		Seamless Tube Bends for Butt-welding; Tube Bends of Special Brass
BV	08880-3	71		Seamless Tube Bends for Butt-welding; Tube Bends of Copper-Nickle Alloy CUNI 10FE

PIPE FITTING, METAL

ANS	B16.3	71		Malleable Iron Screw Fittings
ANS	B16.4	71		Cast Iron Threaded Fittings
ANS	B16.12	71		Cast Iron Threaded Drainage Fittings

NSSP PILOT PHASE
RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE : .13 - Pipe Systems

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

PIPE FITTING, METAL (Continued)

ANS B16.14	71		Iron Pipe Plugs, Bushings, and Locknuts with Pipe Threads
ANS B16.15	71		Cast Bronze Threaded Fittings
ANS B16.18	72	78	Cast Bronze Solder Joint Pressure Fittings
ANS B16.22	73		Wrought Copper and Bronze Solder-Joint Pressure Fittings
ANS B16.23	69		Cast Bronze-Solder Joint Drainage Fittings
ANS B16.24	71		Bronze Flanges and Flanged Fittings
ANS B16.25	72		Buttwelding Ends for 3 to 24 Inch Pipe
ANS B16.26	75		Cast Copper Alloy Fittings for Copper Tubes
ANS B16.28	62	72	Cast Steel Buttwelding Short Radius Elbows
BV 2520	74		Pipe Unions and Screw Plugs; Summary of Types for Shipbuilding
BV 2 5 3 0	73		Coupling Joints for Cast Pipes and Special Castings of Cast Iron with Globular Graphite; Joining Ends; Design Dimension
BV 25200-11	73		Solderless Pipe Unions with Wedge-ring; Description of Application
BV 25251	73		Pipe Union Malleable Cast Iron
BV 25252	73		Pipe Unions of Bronze for Cappillar Soldering
BV 25270-1	72		Welding Sockets for Pipes; Dimensions
BV 25502	73		Soldering Fittings, Fittings of Copper; Yards Choice
BV 46013	73		Pipe Sockets for Tanks, Nominal Pressure 10
BV 46014	73		Pope Sockets for Tanks, Nominal Pressure 16
BV 46026	63		Deflector for Tank Filling Fittings
BV 49092-1	69		Welding Sockets for Protecting Tubes of Temperature Measuring Instruments
DIN 86103	71		Sockets of Screwed Ends with Whitworth Pipe Thread
DIN 86121	72		Screw Caps, Whitworth Screw Thread R1 to R4
JIS F3020	69	75	Ships' Oil Suction Bellmouths

PIPE FITTING, PLASTIC

AST D2122	70		Determining Dimensions of Thermoplastic Pipe and Fittings
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NSSP PILOT PHASE
RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE : .13 - Pipe Systems

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

PIPE FITTING, PLASTIC (Continued)

BV 25280	73	Pipe Unions of PVC
BV 25521	73	Fittings of Hard PVC

PIPE FLANGE See FLANGE

PIPE FLANGE GASKET See GASKET, PIPE FLANGE

PIPE HANGER See HANGER, PIPE

PIPE HANGER PARTS. See HANGER PARTS, PIPE

PIPE THREAD

ANS B2.1	68	Pipe Threads Except Dryseal
ANS B2.2	68	Dryseal Pipe Threads
AST D1694	67 72	Threads for Reinforced Thermosetting Plastic Pipe

PIPE WELDING See .12 - WELDING, PIPE

PIPING SYSTEM DESIGN

ANS B31.3	73	Petroleum Refinery Piping
ANS B31.3b	74	Petroleum Refinery Piping

PIPING SYSTEM MARKING

ANS A13.1	75	Piping System Identification
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PIASTIC PIPE See PIPE, PLASTIC

PLASTIC PIPE CEMENT See CEMENT, PLASTIC PIPE

PLUMBING

ANS A112.1	71	Performance Test for Anti-Syphon Vacuum Breakers
ANS A112.1-2	73	Air Gaps in Plumbing Systems
ANS A112.5-1	71	Sepecification for Cast Iron Soil Pipe and Fittings
ANS A112.6-1	72	Supports for Off-floor Plumbing Fixtures

NSSP PILOT PHASE
RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE: .13 - Pipe Systems

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

PLUMBING (Continued)

ANS A112. 71	Plumbing Fixtures and Fittings, Brass
18-1	
ANS A112. 73	Enameled Cast Iron Plumbing Fixtures
19-1	
ANS A112. 69	Waterhammer Arrestors
26-1	
ANS Z21.22 72	Relief and Automatic Shut-off Valves for Hot Water Supply Systems
DIN 4810 73	Steel Pressure Vessels for Water Supply Systems

THREAD, PIPE See PIPE THREAD

TUBE BENDING See PIPE BENDING

TUBING

AST D2105 67	Longitudinal Tensile Properties of Reinforced Plastic Pipe
BV 08802 71	Tubes of Special Brass; Seamless Drawn Selection of Ships Pipelines
BV 08810 71	Tubes of Copper-Nickel-Alloy CuNi 10FE Seamless Drawn; Selection for Ships Pipelines
BV 08832 73	Insulated Copper Tubes for Capillar Soldered Joints; Selection for Ships Pipelines
DIN 86018 72	Welded Tubes of Copper Alloys

VALVE

ANS B16.10 73	Face, Face and End, and End Dimensions of Cast Ferrous Valves
ANS B16.34 73	Steel Buttwelding End Valves
BV 404211 67	Shut-off Valves, Screwed-Bonnet, Bronze, with Double Cone Ring Unions; Nominal Diameter 6 to 25, Nominal Pressure 40, Temperature Up to 225°C
BV 40212 67	Shut-off Check Valve Screwed-Bonnet, Bronze, with Double Cone Ring Unions; Nominal Diameter 6 to 25, Nominal Pressure 40, Temperature up to 225°C

NSSP PILOT PHASE
RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE : .13 - Pipe System

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

VALVE

BV 40214	71		Shut-off Valve, Nominal Diameter 16, with Hose Coupling, for Compressed Air
BV 41433	68		Glandless Taps, Bronze, with Double Cone Ring Unions; Nominal Diameter 4 to 25, Pressure 10, Up to 80°C, Pressure 16, Up to 40°C
DIN 86120	70		Sounding Tube Plug Valves
DIN 86211	68		Fire Valves for Nominal Pressure 16, with Fire Hose Couplings Type C or B, and with Flange Connection
DIN 86511	73		Shut-off Valve, Screwed Bonnet, Bronze, with 25° Taperbushing Type Pipe Unions for Brazing
DIN 86512	73		Shut-off Check Valves, Screwed Bonnet, Bronze, with 25° Taper-bushing Type Pipe Unioins for Brazing
DIN 86551	73		Screwed Bonnet Valves of Steel, with 25° Taper-bushing Type Pipe Unions for ButtWelding
DIN 87001	67		Drain Taps of Bronze, Nominal Size R 1/4 to R1. Nominal Pressure 10 Up to 80°C, Nominal Pres- " sure 16 Up to 40°C
DIN 87003-1	67		Drain Taps, Lockable Type, of Bronze; Nominal Size R1/4 to R1, Nominal Pressure 10 Up to 80°C, Nominal Pressure 16 Up to 40°C
DIN 87101	69		Storm Valves, Nominal Diameters 50 to 150

VALVE OPERATING GEAR

BV 35230	71		Controls for Cable-Pull for Fast-Closing Valves; Arrangement
BV 35232-1	72		Cable-Pull for Fast-Closing Valves; Arrangement
JIS F3011	69	75	Universal Joints of Transmission Shaft in Cargo Oil Tank
JIS F3024	73	77	Ships' Deck Stands for Controlling Valves
JIS F3025	75		Fittings of Manual Remote Control Gears for Forepeak Bulkhead Valves on Small Ships
JIS F3026	75		Remote Handling Gear for Cargo Oil Tank Valves in Small Ships

NSSP PILOT PHASE
RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE : .93 - Terminology

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

ACOUSTICAL TERMINOLOGY

ANS S1.1 60 71 Acoustical Terminology

AUTOMATIC CONTROL TERMINOLOGY

ANS C85. 1 63 Terminology for Automatic Control

ANS C85. 1A 66 Terminology for Automatic Control

ANS C85. 1B 72 Terminology for Automatic Control

FASTENER TERMINOLOGY

ANS B18.12 62 75 Glossary of Terms for Mechanical Fasteners

NSSP PILOT PHASE
RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE : Undetermined

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

BALL BEARING

ANS B3.12 64 Specification for Metal Balls

BEARING

ANS B3.8/
ANS B3.17 68 Mounting Ball and Roller Bearings

ANS B3.12 64 Specification for Metal Balls

BOLT

ANS B18.2-1 72 Square and Hex Bolts and Screws

ANS B18.5 71 Round Head Bolts

CONTAINER CARGO

ANS MH5.1 71 Basic Requirements for Cargo **Containers**

CYLINDRICAL PART,
LIMIT AND FIT

See FIT, CYLINDRICAL PARTS

DRAWING STANDARDS

ANS Y10.5 68 Letter Symbols for Quantities Used in Electrical
Science and Electrical Engineering (IEEE 280)

ANS Y10.17 73 Guide for Selecting Greek Letters

ANS Y10.19 69 Letter Symbols Used in Science.

ANS Y14.1 75 Drawing Sheet Size and Format

ANS Y14.2 73 Line Convention and Lettering

ANS Y14.5 73 Dimensioning and Tolerancing for Engineering
Drawings

ANS Y14.15 69 73 Electrical and Electronic Diagrams

ANS Y14.15A 71 Drafting Practices for Interconnecting Diagrams

ANS Y14.17 66 74 Drafting Standard for Fluid Power Diagrams

ANS Y32.9 72 Graphic Symbols for Electric Wiring

ANS Y32.10 67 74 Graphic Symbols for Fluid Power Diagrams

ANS Y32.14 73 Graphic Symbols for Two-State Logic Diagrams

NSSP PILOT PHASE

RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE : Undetermined

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

FIT, CYLINDRICAL PARTS

ANS B4.1 67 74 Preferred Limits and Fits for Cylindrical
Parts (ISO R286 - Pt. 1)

FLASHLIGHT

JIS F8425 62 77 Explosion-Proof Flashlight for **Marine Use**
(Dry Battery Type)

GLOBE, INDICATOR LAMP

JIS F8404 63 75 Glass Globes for Marine Indicator Lamps

HANDHOLE, MANHOLE, AND TANK CLEANING HOLE

BV 34601-1 66 Handhole Covers, Nominal Size 300 and 400
DIN 83402-1- 72 Manhole Covers for Bunkers and Tanks on
Ships; Assembly, Installation
DIN 83402-2 72 Manhole Covers for Bunkers and Tanks on Ships;
Frame, Cover .
DIN 83403 74 Sealing for Manhole Covers for Bunkers and
Tanks on Ships
JIS F2304 70 76 Ships Manholes
JIS F2329 75 Ships Small Size Manholes
JIS F2331 75 Covers for Tank Cleaning Holes

HYDRAULIC FLUID

ANS B93.19 72 Method of Extracting Hydraulic Fluid Samples

INDICATOR LAMP GLOBE See, GLOBE, INDICATOR LAMP

INSTRUCTION PLATE

BV 35510 7 3 Name Plates in Ships; Instructions

LOCKWASHER

ANS B18.21-1 72 Lockwashers

LUBRICATING FITTINGS

DIN 3411 72 Grease Box; Light Construction
DIN 71412-1 69 Lubricating Nipples, Hydraulic Type, with
Metric Threads

NSSP PILOT PHASE

RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE : Undetermined

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

MEASUREMENT, ACOUSTIC

ANS S1-4	71		Specification for Sound Level Meters
ANS S1-6	67	71	Preferred Frequency Band Numbers for Acoustic Measurement
ANS S1-11	66	71	Octave, One-half Octave, and One-third Octave Band Filter Sets

MEASUREMENT, FLOW

BV 49360	71		Stop Plugs; Nominal Pressure 10 and 16
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MEASUREMENT , LEVEL

BV 49301	72		Circular Weld-on Sight Glasses
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MEASUREMENT, PRESSURE AND VACUUM

ANS B40.1	74		Gauges, Pressure and Vacuum, Dial Type, with Elastic Element
BV 4914	72		Manometers, Specification for Junction Lines

MEASUREMENT, SHOCK AND VIBRATION

ANS S2.2	59	71	Calibration of Shock and Vibration Pickups
ANS Z24.21	57	.71	Characteristics for Pickups for Shock and Vibration

MICROFILM REEL

ANS PM506	68	74	Dimensions for 100 Foot Reels of 16 and 35mm Microfilm
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NAMEPLATE

BV 35510	73		Name Plates in Ships; Instructions
BV 35511	73		Area Designation, and Door Number, Name Plate
BV 35512	73		Designation Name Plates for Equipment on Ships
BV 35513	73		Nameplates for Conduits on Ships

NSSP PILOT PHASE
RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE : Undetermined

DESIGNATION YR. YR.
OF STANDARD REV REAFR TITLE

NAME PLATE HOLDER

BV 35519 73 Name Plate Holders

NUT

ANS B18.2-2 72 Square and Hex Nuts

ANS B18.6-3 72 Machine Screws and Nuts

RIVETS AND RIVET CAPS

ANS B18.1-1 72 Small Solid Rivets

ANS B18.7 7 2 General Purpose Semi-Tubular, Tubular, **and**
Split Rivets and Caps

ROPE, FIBER

JIS F3434 59 75 Application Standard of Hemp Ropes for Ship Use

JIS F3438 67 76 Application Standard of Hemp Ropes for Small Ship

ROPE, WIRE

JIS F3433 59 75 Application Standard of Steel Wire Rope for Ship
Use

JIS F3437 67 76 Application Standard of Steel Wire Rope for Small
Ship

ROPE END FITTINGS

JIS F3432 74 Ships' Steel Wire Rope Sockets

JIS F3439 69 75 Fastening Method of Wire Ropes to Drum for
Ship Use

S-RING

JIS F3907 75 Ships' Rings for Chainlets

SAFETY NEAR OPENINGS

ANS A12.1 73 Safety Requirements for Floor and Wall Openings,
Railings, and Toeboards

NSSP PILOT PHASE
RECOMMENDED F-25 SUBCOMMITTEE GROUPINGS

SUBCOMMITTEE: Undetermined

DESIGNATION YR. YR
OF STANDARD REV REAFR TITLE

SCREW

ANS B18.2-1	72		Square and Hex Bolts and Screws
ANS B18.3	69		Socket Cap, Shoulder, and Set Screws
ANS B18.6-3	72		Machine Screws and Nuts

SCREW THREAD

ANS B1 RPT	77		Isometric Screw Threads
ANS B1.1	74		Unified Inch Screw Threads
ANS B1.2	74		Gages and Gaging Unified Inch Screw Threads
ANS B1.5	73		Acme Screw Threads
ANS B1.7	72		Screw Threads Definitions, Nomenclature, and Letter Symbols

SHOCK AND VIBRATION

ANS S1.1	60	71	Acoustical Terminology
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SPEAKING TUBE

BV 76005	72		Speaking Tube Lines
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SPRING

JIS F0503	60	76	Coil Springs for Ship Machinery
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SURFACE TEXTURE

ANS B46.1	62	71	Surface Texture
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THREAD, SCREW

See-SCREW THREAD

TOLERANCES, FIT

O CYLINDRICAL PARTS

See-FIT, CYLINDRICAL PARTS

TOLERANCING

ANS Y14.5	73		Dimensioning and Tolerancing for Engineering Drawings
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WASHER, LOCK

ANS B18.21-1	72		Lock Washers
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APPENDIX E

LIST OF STANDARDS CITED IN MARITIME
ADMINISTRATION STANDARD SPECIFICATION
FOR MERCHANT SHIP CONSTRUCTION

LIST OF STANDARDS CITED IN
MARITIME ADMINISTRATION STANDARD SPECIFICATION
FOR MERCHANT SHIP CONSTRUCTION

INTRODUCTION

This document summarizes the citations by the Standard Specification for Merchant Ship Construction (MarAd Standard Specification)¹ of various standards and other documents. The citations have been categorized by source:

1. Regulatory Bodies
2. Government Specifications
3. International Organizations
4. Standards Sponsoring Organizations
5. Customary Description (Gage, etc.)
6. Citation of Special Product "Or Equal"
7. Indefinite Citations

Table 1 shows the number of organizations in each category, and the number of unique citations found. Each unique citation is listed, together with the section of the MarAd Standard Specification where cited and the NSSP Functional Area Category Code (FACC)² for the subject of the citation. Thus a scan of the list for a particular FACC will identify all citations in that shipbuilding functional area. Also, a graphic presentation of the distribution of citations by functional area is included in Figures 1 and 2.

1. A revision of the MarAd Standard Specification is in progress within MarAd; however, it is expected that few citations will be affected. This list will be revised as necessary when the new revision is published.
2. See Figure 2. The FACC is a system or functional area oriented code used to categorize standards in the NSSP Catalog of Standards.

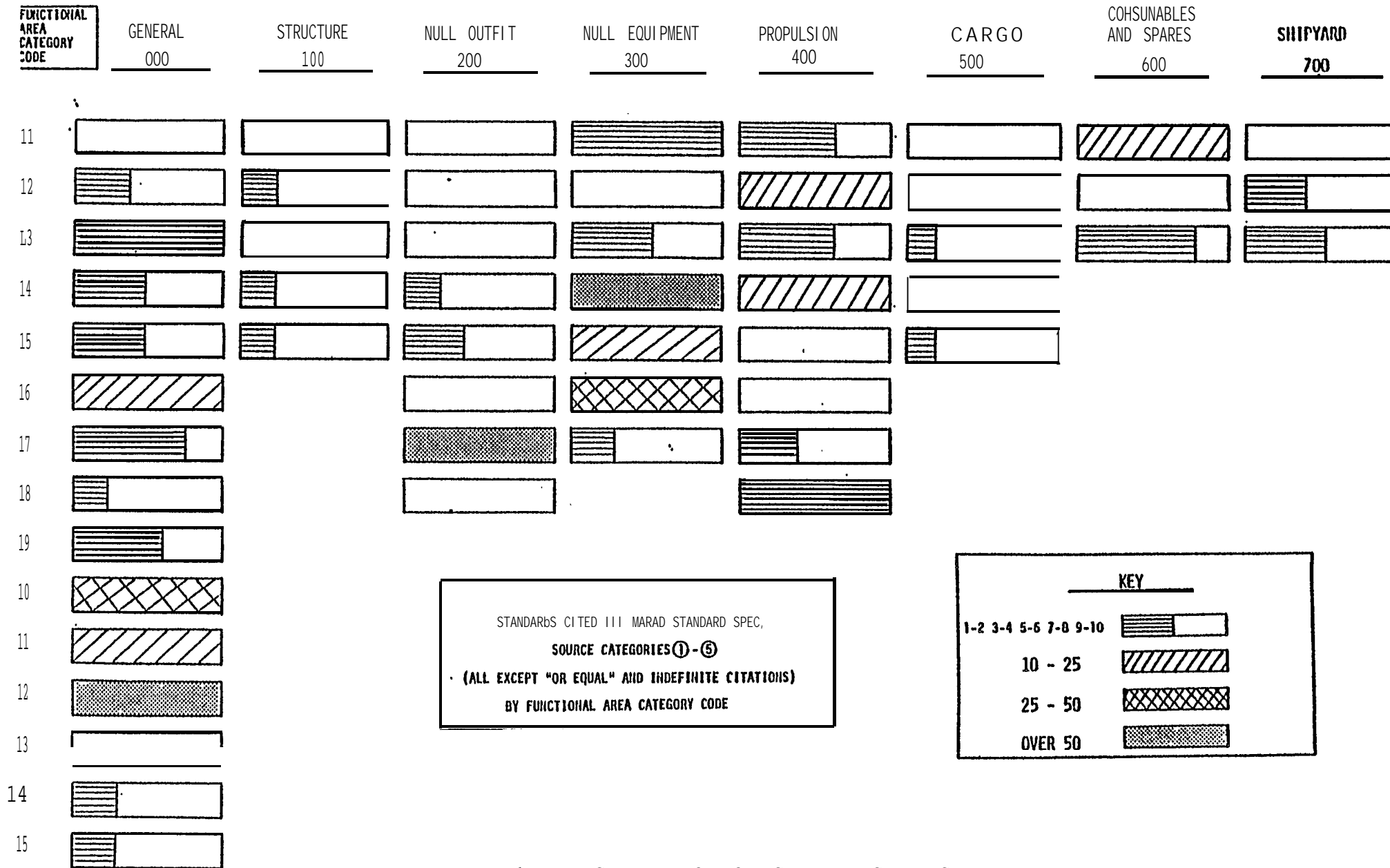


FIGURE 1: DISTRIBUTION OF STANDARDS BY SHIP FUNCTIONAL AREA

	GENERAL 000	STRUCTURE 100	HULL OUTFIT 200	HULL EQUIPMENT 300	PROPULSION 400	CARGO 500	CONSUMABLES AND SPARES 600	SHIPYARD 700
11	ELECTRICAL MATERIAL	PLATE	FOUNDATIONS	HOORING AND HANDLING	MAIN PROPULSION	CARGO HANDLING	SHIP SPARES	CONSTRUCTION OPERATIONS
12	JOINING	SHAPE	SEA CHESTS	STEERING AND STABILIZATION	PROPULSION AUXILIARIES	CARGO STORAGE	SHORE SPARES	ENGINEERING AND DESIGN
13	PIPE, ETC.	FORGINGS AND CASTINGS	HULL APPENDAGES	HULL PIPING	ELECTRICAL POWER	ENVIRONMENT CONTROL	CONSUMABLES	CONTRACTS AND ADMINISTRATION
14	RIGGING	HULL FASTENINGS	HULL FITTINGS	ACCOMMODATIONS	STEAM SYSTEM	LIQUID HANDLING		
15	TEST AND MEASUREMENT	ASSEMBLIES	HULL OPENINGS	HVAC	HYDRAULIC SYSTEM	SPECIAL TANKS		
16	GENERAL MATERIAL		SOLID DALLAST	NAVIGATION, COMMUNICATION & LTG	COMPRESSED AIR SYSTEM			
17	SAFETY		SURFACE PREPARATION AND COATINGS	FIRE DETECTION	AUXILIARY POWER SYSTEM			
18	MECHANICAL PARTS		PENETRATIONS		AUTOMATION			
19	MISCELLANEOUS							
20	INSULATION							
21	DOCUMENTATION AND CERTIFICATION							
22	TOOLS AND SHOPS							
23	STORES STORAGE							
24	HANDUALS AND MARKINGS							
25	NOISE AND VIBRATION							

NATIONAL SHIPBUILDING STANDARDS PROGRAM
FUNCTIONAL AREA CATEGORY CODES

FIGURE 2: SHIP FUNCTIONAL AREA CATEGORIES

STANDARDS CITED BY **THE**
MARITIME ADMINISTRATION STANDARD SPECIFICATION FOR
MERCHANT SHIP CONSTRUCTION

SUMMARY

<u>ORGANIZATION CATEGORY</u>	<u>ORGANIZATION</u>	<u>UNIQUE CITATIONS</u>
1. Regulatory Bodies	11	236
2. Government Agencies	4	206
3. International Organizations	3	5
4. Standards Sponsoring Organizations	23	74
5. Customary Description (Gage, etc.)	18	60
6. Citation of Specific Product "Or Equal"	144	372
7. Indefinite Citations	<u>---</u>	<u>52</u>
TOTALS	203	1005

TABLE 1: SUMMARY OF CITATIONS

1. CITATIONS OF REGULATORY BODIES

<u>ORGANIZATION</u>	<u>UNIQUE CITATIONS</u>
1.1 <i>American Bureau of Shipping</i>	40
1.2 Environmental Protection Agency	7
1.3 Federal Communications Commission	5
1.4 Maritime Administration	113
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1.5 PANAMA CANAL COMPANY

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GGG-S-65	Saws	102-3 (2 Refs) 102-5	022
GGG-S-113	Scraper, Bearing	102-5	022
GGG-S-116	Scraper, Paint	102-3 (3 Refs) 102-5 (2 Refs)	022
GGG-S-121	Screwdriver	102-3 (2 Refs) 102-5 (4 Refs)	022
GGG-S-131	Scriber	102-5 (2 Refs)	022
GGG-S-291	Snips	102-5 (3 Refs)	022
GGG-S-326	Shovel	102-3, 102-5	022
GGG-S-656	Square	102-3, 102-5 (2 Refs)	022
GGG-S-665	Stripper, Wire .	1 0 2 - 5	022
GGG-T-106	Tape, Measuring	102-3, 102-5	022
GGG-T-563	3 lb. Blacksmith's Chisel	102-3, 102-5 (2 Refs)	022
GGG-T-581	Dies, Pipe Threading	102-5 (2 Refs)	022
GGG-T-671	Trowel, Brick	102-3, 102-5 (2 Refs)	022
GGG-V-436	Vises	23-2	022
GGG-W-201	Wedges	102-5 (2 Refs)	022
GGG-W-631	Wrenches, Adjustable	102-3 (4 Refs) 102-5 (2 Refs-w/ 2 items & 1 w/ " 5 items	022
GGG-W-636	Wrenches, Engineers	102-3 (4 items), 102-5 (4 Refs-2 w/ 10 items, 1 w/8 items, & 1 w/3 items)	022
GGG-W-651	Wrenches, Pipe	102-3 (3 items) 102-5 (2 Refs - 1 w/ 6 items)	022
LLL-M-71	Mallet, Carpenters	102-3, 102-5	022
LLL-R-530	Pin, Rolling	1.02-16	314

2.2 MILITARY SPECIFICATIONS

<u>SPEC NO.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
JAN-C-1196	chronometer	102-2	316
JAN-P-700	Gray Deck Paint	14-6, 14-8	217
MIL-HDBK-217A	Radar Test Requirements	94-4	316
MIL-STD-419	Cleaning Piping Systems	81-1	313
MIL-STD-781B	Radard Test Requirements	94-4	316
MIL-STD-17231	Lantern, Hand, Electric	102-5	022
MIL-SPEC	General Reference	1-15	---
MIL-SPEC (Unspecified No.)	Hydraulic and Lubricating oils	81-1	613
MIL-A-3316	Adhesives	75-2	012
MIL-A-15199	Adhesives	75-2	012
MIL-A-18001	Zinc Anodes for Heat Exchangers	50-1	019
MIL-B-674	Bell, Silicone Bronz	15-1	316
MIL-B-15395	Brazing Filler Metals	74-4	013
MIL-B-17311	Binoculars	102-1	316
MIL-B-17896	Barometer	15-1	316
MIL-B-19564	Bedding Compound	7 5 - 2	012
MIL-C-788	Lagging Materials	75-2	020
MIL-C-16173	Corrosion Preventative Compound	14-5, 14-8	217
MIL-C-19565	Coating Compound	75-2	217
MIL-C-20061	Clinometer	15-1	316
MIL-C-20079	Lagging Materials	75-2	020
MIL-C-21101	Blower and Cleaner,. Vacuum	102-5	314
MIL-C-22395	End Sealing Compound	75-2	020
MIL-C-22524	Cloth, Coated with Polyethylene	22	019
MIL-D-2917	Dispenser, Salt Tablet	102-20	314
MIL-D-23003	Deck Covering Compound	14-8	217
MIL-D-40078	Pump, Barrel, Hand,. Rotary	102-5	022
MIL-E-15090	Enamel, Light Gray	14-5, 14-8	217
MIL-E-15145	Zinc Dust Enamel	14-5, 14-8	217

<u>SPEC NO .</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
MIL-E-15932	Enamel, Gloss Black, Vinyl Alkyd	14-8	217
MIL-E-15936	Enamel, Exterior Gray, No. Vinyl Alkyd	14-8	217
MIL-E-17970	Enamel, White, Fire Retardent	14-8	217
MIL-F-3113	Fid, Wooden	102-3 (3 Refs)	022
MIL-G-17859	Gear 'Tooth Stresses	52-5	018
MIL-G-18015	6063-T6 Aluminum Alloy	6-2	016
MIL-H-904	"Hoist, Chain	102-5	022
MIL-I-742	Insulation Board, Hard Faced	7-1 (2 Refs)	020
MIL-I-15349	Thermal Insulating Tape	75-1	020
MIL-I-16411	Fibrous Glass	75-2	020
MIL-I-18001	Zinc Protectors	1-15	019
MIL-I-18422	Indicator, Dial	102-5	022
MIL-I-20050	Hand Cuffs	102-4	019
MIL-I-23128	Felt, Fiber	75-2 (3 Refs)	020
MIL-I-24137	Ductile Iron	1-15 (2 Refs)	016
MIL-J-2829	Joint Sealing Material	14-3, 14-8	217
MIL-L-1117	Stretcher (Litter), Stokes	102-20	314
MIL-L-3150	Lubricating Oil	14-5, 14-8	013
MIL-M-1263	Hand Megaphone	102-20 (2 Refs)	316
MIL-M-15562	Matting, Insulating	6-10	314
MIL-M-15926	Marline Spike, Steel	1-203	022
MIL-N-16626	Sling, Stores,. Net	102-4	311
MIL-P-1251	Post, Drill	102-5	022
MIL-P-5977	Puller, Fuse	102-5	022
MIL-P-15280	Flexible Foamed Plastics	75-2	016
MIL-P-15328	Pretreatment (Wash) Primer	14-4, 14-5, 14-8	016
MIL-P-15929	Tiecoat, Vinyl Red Lead Primer	14-8	217
MIL-P-16208	Grommet Dies and Punch	102-3	022
MIL-P-23236	Inorganic Zinc Silicate	12-6, 69-1	217
MIL-R-3308	Respirator, Dust	102-4	022
MIL-R-15058	Synthetic Rubber Shaft Covering	53-1	217

	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
MIL-E-23461	Fiberglass Shaft Covering	53-1	217
MIL-S-901	Shock Requirements	76-2	025
MIL-S-2387	Marine Sextant	102-2	316
MIL-S-15769	Straightedge, Steel	102-5	022
MIL-T-15196	Vermiculite	14-8	020
MIL-T-19772	Valve, Steam Temperature Control Regulators for Commissary Equipment	12-8	314

2.3 NATIONAL BUREAU OF STANDARDS

<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
Roll Air Filter Test Method	12-7	315

2.4 U. S. NAVY

<u>SPEC NO.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
NAVASHIPS 0900- 000-1000, Fig. 12-7 and 12-7A Page 207	Fabrication, Welding and Inspection of Ship Hulls	2-4, 3-1	100

3. CITATIONS OF INTERNATIONAL ORGANIZATIONS

<u>ORGANIZATION</u>	<u>. UNIQUE CITATIONS</u>
3.1 Inter-Governmental Maritime Consultive Organization	1
3.2 International Convention on Safety of Life at Sea	1
3.3 International Rules of the Road	<u>3</u>
TOTAL	5

3.1 INTERGOVERNMENTAL MARITIME CONSULTIVE ORGANIZATION

<u>DOCUMENT NO.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
Resolution A. 24b (VII)	Oil Outflow Limits	70-2	613

3.2 INTERNATIONAL CONVENTION OF THE SAFETY OF LIFE AT SEA

Fire Hose Couplings	58-6	313
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3.3 INTERNATIONAL RULES OF THE ROAD

General	1-5	
Light System Running and Anchor	92-7	316
Whistle, Automatic Timing Cycles	94-8	316

4. CITATIONS OF STANDARDS SPONSORING ORGANIZATIONS

<u>ORGANIZATION</u>	<u>UNIQUE CITATIONS</u>
4.1 Air Moving & Conditioning Association	4
4.2 Amercian Gear Manufacturers Association	1
4.3 American Iron & Steel Institute	4
4.4 American National Standards Institute	9
4.5 American Society of Heating, Refrigeration and Air Conditioning Engineers	1
4.6 American Society of Mechanical Engineers	5
4.7 American Society for Testing and Materials	13
4.8 American Welding Society	1
4.9 Heat Exchange Institute ~	3
4.10 Hydraulic Institute	1
4.11 Illuminating Engineering Society	4
4.12 Institute of Electric & Electronic Engineers	3
4.13 National Electric Code	1
4.14 National Electric Manufacturers Association	4
4.15 National Insulation Manufacturers Association	"1
.-4.16 National Machine Tool Builders Association	1
4.17 Society of Automotive Engineers	3
4.18 Society of Naval Architects & Marine Engineers	8
4.19 Southern Pine Inspection Bureau	1
4.20 Steel Structures Painting Council	3
4.21 Tubular Exchanger Manufacturers Association	2
4.22 Underwriters Laboratories	2
4.23 West Coast Lumber Inspection Bureau	1
TOTAL	7

4.1 AIR MOVING AND CONDITIONING ASSOCIATION

<u>STD. NO.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
Bulletin 210	Fan Performance	12-9, 62-1	412
Bulletin 300	Fan Performance	12-9	315

4.2 AMERICAN GEAR Manufacturing ASSOCIATION

Reduction Gears, Hull Machinery	81-1	311
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4.3 AMERICAN IRON AND STEEL INSTITUTE

Type 304, 316	Stainless Steel	1-15, 12-11, 17-2	016
Type 416	Stainless Steel	73-2	016

4.4 AMERICAN NATIONAL STANDARD INSTITUTE

C39.1	Bolt Head and Nuts	1-15	012
	Electrical Indicating Instruments-Rqmts. for	89-1	413
	Fire Hose Coupling	58-6	313
	Flanged Steam Inlet and Exhaust Nozzels	73-4	013
C82.1	Lighting-Interference Suppression	92-1	316
	Safety Code for Elevators and Moving Walks	1-5, 81-12	311
	Safety Colors for Hatch Openings, Machinery, Moving Parts & Fittings	14-1	017
B59.1	Mechanical Refrigeration Installations on Shipboard, Recommended Practices (ASHRAE 26-63)	1-5	315

4.5 AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS

26-63	Mechanical Refrigeration Installation on Ship Board, Recommended Practice (ANS B 59.1)	1-5	315
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4. 6 AMERICAN SOCIETY OF MECHANICAL ENGINEERS

<u>STD. NO.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
	Marine Propulsion Turbine Lubricating Oil Systems		
STD. 111	- Design of	57-1	412
STD. 113	- Cleaning practices	57-1	412
STD. 114	- Specifications for Oil	57-1	613
	Marine Auxilliary Machinery Lubricating Oil Systems		
STD. 115	- Design, Operation, and Maintenance	57-1, .7712	412
STD. 119	- Flushing and Clearing Practices	57-1, 77-2	412

4.7 AMERICAN SOCIETY FOR TESTING AND MATERIALS

A48	Cast Iron	73-2	016
A278	Cast Iron	73-2	016
B143-IA	Composition "C"	73-2	016 ,
B143-2A	Composition "M"	73-2, 73-3	016
A395	Ductile Iron	7-15, 73-2	016
A445	Ductile Iron	7-15, 73-2	016
A536	Ductile Iron	7-15, 73-2	016
	General Reference	1-15	---
B111Alloy706	Heat Exchanger Material	50-1	016
B209	Lagging Material	75-2	020
	Overweight Tolerances of Steel Members	1-15	112
A296	Stainless Steel	73-2 (3 Refs)	016

4.8 AMERICAN WELDING "SOCIETY

Welding Symbols, Use on Plans	100-2	712
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4.9 HEAT EXCHANGE INSTITUTE

Dissolved Oxygen, Determination of	60-7	015
Heat Exchangers, Design of	50-1	412

<u>STD. NO.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
	Steam Surface Condensers & Air Removal Equipment	54-1	411
4.10	<u>HYDRAULIC INSTITUTE</u>		
	Pumps	73-1	412
4.11	<u>ILLUMINATING ENGINEERING SOCIETY</u>		
	Fixtures - Incandescent & Fluorescent	92-1	316
	Fixtures - Installation for Illumination	92-3	316
	General Reference	1-5	316
	Specification by Space	92-3	316
4.12	<u>INSTITUTE OF ELECTRIC AND ELECTRONIC ENGINEERS</u>		
IEEE-45	Electronic Installation on Ship Board, Recommended Practice	1-5	413
IEEE-45	Emergency Generator Voltage Regulation	76-2	413
IEEE-45	Panelboard	90-7	413
4.13	<u>NATIONAL ELECTRIC 'CODE</u>		
	Electrical Systems, Design and Construction STDs	87-1	316
4.14	<u>NATION~ ELECTRIC MANUFACTURERS ASSOCIATION</u>		
	Air Circuit Breakres	89-1	413
	Control Centers, Type C	87-2, 91-3	413
	Electrical Systems, Design & Construction STDs	87-1	413
PUB LD-1-301	Laminates, General Purpose	19-1	413
4.15	<u>NATIONAL' INSULATION MANUFACTURERS ASSOCIATION</u>		
	Piping Insulation - Table of Simplified Thicknesses	75-3	020

<u>STD. NO.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
4.16	<u>NATIONAL MACHINE TOOL BUILDERS ASSOCIATION</u>		
	Machine Tool Electrical STDs	91-1	022
4.17	<u>SOCIETY OF AUTOMOTIVE ENGINEERS</u>		
	Hull Machinery		
	Hydraulic & Lubricating Oils	81-1	613
	Stress Relief Requirements for Forgings, Castings and Weldments	81-1	311
	Specifications - General	1-15	016
4.18	<u>SOCIETY OF NAVAL ARCHITECTS AND MARINE ENGINEERS</u>		
c-1	Code for Vibration Measurement	101	025
3-8	Code of Installation and Shop Tests, Trail Codes	101	015
3-11	Recommended Practices for Preparing Marine Steam Power Plant Heat Balances	50-2, 61-1, 61-17	411
3-20	Guide for the Design of Line Shaft Couplings	53-3	411
4-2a	Standard Life Boat Code	10-2	311
4-4	Report on Ship's Stores & Installed Cargo Refrigerated Boxes	7-4	315
4-5	Special Cargo Tanks for Dry Cargo Ships	2-16	515
4-7	Thermal Insulation Report	7-5, 12-2	020
4.19	<u>SOUTHERN PINE INSPECTION BUREAU</u>		
	Southern Pine Grade No. 1	7-9	016
4.20	<u>STEEL STRUCTURES PAINTING COUNCIL</u>		
SP-5	Surface Preparation, Blast Standards	14-1, 14-2	217
SP-6	Surface Preparation, Blast Standards	14-1, 14-2	217
SP-10	Surface Preparation, Blast Standards	14-1, 14-2	217

<u>STD. NO.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
4.21	<u>TUBULAR EXCHANGER MANUFACTURERS ASSOCIATION</u>		
	Heat Exchangers, Design	STDS 50-1	412
	Main Lubrication Oil Coolers	57-3	412
4.22	<u>UNDERWRITER'S LABORATORIES</u>		
	Electrical Systems, Design and Consturction	87-1	413
	Panel Board	90-7	413
4.23	<u>WEST COAST LUMBER INSPECTION BUREAU</u>		
	Construction Grade for Douglas Fir or Western Hemlock	7-9	016

5. CITATION OF CUSTOMARY DESCRIPTION (GAGE, ETC.)

<u>DESCRIPTION</u>	<u>UNIQUE CITATIONS</u>
5.1 American Standard Pipe Threads	1
5.2 AWG - American Wire Gage	1
5.3 B&S	1
5.4 BHN - Brinell Hardness Number	3
5.5 BWG - British Wire Gage	6
5.6 Chalmers' Method	1
5.7 Color Banding (of Compressed Gas Cylinders)	1
5.8 Copper Tubing Type	1
5.9 Fuel Grade	1
5.10 Influence Method	1
5.11 IPS - Iron Pipe Size	12
5.12 IPSWR - Improved Plow Steel Wire Rope	1
5.13 IWRC	1
5.14 Jacking Method	1
5.15 Radio Emission Types	7
5.16 Schedule 40 and Schedule 80 Pipe	5
5.17 SSU - Saybolt Seconds Universal	4
5.18 USSG - U.S. Steel Gage	2 2
TOTAL	<u>60</u>

<u>GRADE OR STANDARD</u>	<u>SIZE</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
5.1 <u>AMERICAN STANDARD PIPE THREADS</u>				
3/4"		Pipe Thread Size	85-4	013
5.2 <u>AWG - AMERICAN WIRE GAGE</u>				
16		Conductors, Portable Codes	90-4	011
5.3 <u>B&S</u>				
20		Chromium Plated Brass Shower Curtin Rod	20-6	314
5.4 <u>BHN - BRINELL HARDNESS NUMBER</u>				
300		Rope Contact Surface of Capston and Windlass Heads	81-1	311
Various		Main Reduction Gear Coupling Tooth Face	52-10	411
Various		Main Reduction Gear Tooth Faces	52-5	411
5.5 <u>BWG - BRITISH WIRE GAGE</u>				
16		Cargo Tank Cleaning, Drain Cooler Tube Thickness	68-4	514
18		Cargo Oil Tank Heating Heat Exchanger Tube Thickness	68-5	514
18		Main Condenser Tube Thickness	57-1	411
		Main Lube Oil Cooler Tube Thickness	57-3	412
18		Refrigeration, Condenser Tube Thickness	66-3	315
18		Refrigeration, Fresh Water Chiller Tube Thickness	65-2	315
18		Refrigeration, Hot Water Converter	65-2	315
5.6 <u>CHALMER'S METHOD</u>				
		Test of Bearing Babbitt Bond	53-5	411

<u>GRADE OR STANDARD SIZE SUBJECT</u>		<u>SECTION</u>	<u>FACC</u>
5.7	<u>COLOR BANDING</u>		
	Identification of Compressed Gas Cylinders	14-1	024
5.8	<u>COPPER TUBING TYPE</u>		
Type "L"	Thermostat Control Air Supply Tubing	12-8	315
5.9	<u>FUEL GRADE</u>		
Bunker C	Fuel Oil Meter Specifications	56-12	412
5.10	<u>INFLUENCE METHOD</u>		
	Shaft Alignment Calculations	53-2	411
5.11	<u>IPS - IRON PIPE SIZE</u>		
1/2"	Lube Oil Piping	57-5	412
3/8"	Lagging Requirements	75-1	020
3/4"	tube Oil Piping	57-5	412
1"	Seachest Steaming-Out Piping	11-9	414
1"	Thermostatic Control Valves Sizes	12-8	315
1"	Watercloset Flush Valve Sizes	20-8	313
1"	Tank Level Indicating Down Pipes	71-1	313
1"	Handrails	79-5	214
1 1/2"	Convactor Elements	12-6	315
1 1/2"	Plumbing Trap Size	20-7	313
1 1/2"	Air Supply Piping to Boiler Cleaning Tools	72-5	412
1 1/2"	Deck Drain Clean-outs	11-2	3 1 3
1 1/2"	Tank Vent Pipes	11-3	313

<u>GRADE OR STANDARD SIZE</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
1½"	Rudder and Shell Tank Drain Plug Size	11-5	214
1½"	Plumbing Trap Clean-out Size	20-7	313
1½"	Laundry Tub Trap Size	20-10	313
2"	Deck Drain Pipes	11-2	313
2"	Tank Vent Pipes	11-3	313
2"	Convactor Elements	12-6	315
2"	Fuel Oil Tank Heating Coils	63-9	313
2½"	Tank Vent Pipes	11-3	313
3"	Deck Drain Pipes	11-2	313
4"	Deck Drain Pipes	11-2	313
18"	Carbage Chute Size	11-7	314
	Convactor elements	12-6	315
 5.12 <u>IPSWR - IMPROVED PLOW STEEL WIRE ROPE</u>			
6x19	Falls for Boats	16-5	311
6x19, 6x3 7	Running Rigging	9-1	311
 5.13 <u>IwRc</u>			
6x37	Wire Rope for Constant Tension Mooring Winches	10-2	311
 5.14 <u>JACKING METHOD</u>			
	Checking Shafting System Alignment	53-2	411
 5.15 <u>RADIO EMISSION TYPES</u>			
A1 & A2	Main Radiotelegraph Receiver	93-2	316
A1 & A2	Reserve Radiotelegraph Receiver	93-2	316
A2	Reserve Radiotelegraph Transmitter	93-2	316
A1,A3A,A3H A3J, F1	Alternative Medium (High Frequency Transmitter)	9 3 - 2	316

<u>GRADE OR STANDARD</u>	<u>SIZE</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>	
5.16		<u>SCHEDULE 4C AND SCHEDULE 80 PIPE</u>			
Sch. 40		Window Pocket Drains	11-2	313	
Sch. 40		Garbage Chute	11-7	314	
Sch. 40		Stanchions	79-5	214	
Sch. 80		Protective Sleeves for Sounding, Vent, and Overflow Pipes	11-3	218	
Sch. 80		Tank Level Indicator Piping	71-1	313	
Sch. 80		Protective Sleeves for Pipes at Deck or Bulkhead Penetrations	74-4	218	
5.17		<u>SSU - SAYBOLT SECONDS UNIVERSAL</u>			
3000 @ 122°F		Specifications of Fuel to be Handled by Fuel Oil Semite System	56-1	412	
450,7000		Fuel Oil Service Pumps, General		412	
450,7000		Fuel Oil Service Sumps, Single Speed		412	
300,450,7000		Fuel Oil Service Pumps, Two Speed		412	
5.18		<u>USSG - U.S. STEEL GAGE</u>			
14		Insulation and Sheathing Tanks	7-2	020	"
14,16,20,22		Sheathing to Cover Insulation in Machinery Spaces	7-8	020	"
11,12,18,20		Casings for HAVAC Equipment	12-6	315	
16		Gage Panel Boards for HVAC	12-8	315	
8,10		Fan Enclosures	12-9	315	
16,18,20, 22~24		Ventilation Ducts	12-10	315	
16,20		Louvers	12-11	315	
16		Sheathing for HVAC Insulation	12-12	315	
14		Commissary Counter Tops, etc.	17-3	314	
16,18, 20		Enclosed Bases, Lockers, etc.	17-4	314	
14,16,18		Sinks	17-6	314	
18		Steam Table Parts	17-7	314	

<u>GAGE OR STANDARD)</u>	<u>SIZE</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
18		Commissary Shelves	17-11	314
18, 20		Commissary Overhead Cabinets	17-12	314
14		Commissary Tilting Bins	17-13	314
16		Slop Chest Shelves	18-3	314
16		Workshop Lockers	18-4	022
22		Mirror Backs	19-4	314
20		Toilet Shelf	20-12	314
22		Soiled Paper Towel Receptacle	20-12	314
12,16		General Purpose Shelving	32-1	023
12,16		Dumbwaiter Car	23-4	314
12,18		Refrigeration Diffuser Unit	67-4	315
		Casing and Drip Pan and Air Ducts		
20		Pipe Lagging Sheathing	75-3	020
16		Workshop Bins, Drawers, and Shelves	80-1	022
16		Spare Parts Boxes	86-2	611

6. CITATIONS OF SPECIFIC PRODUCT "OR EQUAL"

A total of 144 companies and' 372 different products are cited. This distribution of number of products per company is as follows:

<u>NUMBER OF PRODUCTS</u>	<u>NUM8ER OF COMPANIES CITED FOR THIS NUMBER OF PRODUCTS</u>
1	96
2	20 .
3	4
4	6
5	2
6	3
7	1"
8	.
9	3
10	2
12	1
13	2
15	1
20	2
\ 27	1

6. REFERENCES TO DIRECT COMPANY. TRADE NAME "OR EQUAL"

<u>STD. NO.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
6.1 <u>AIRCO</u>			
	Welding & Cutting Outfit	102-5	022
6.2 <u>ALOE</u>			
DV-152	Atomizer	102-20	314
RD-439	Bag, Ice	102-20	314
EA-8858	Basin, Pus	102-20	314
EA- 9712	Basin, Wash	102-20	314
EA-1901	Beadpan	102-20	314
R-SO	Bottle, Water	102-20	314
D8000C	Bottle, Prescription	102-20	31.4 "
D8000F	Bottle, Prescription	102-20	314
S3732A	Crutches, wood	102-20	314
R7B	Finger Cot	102-20	314
B1126	Forceps, Kelley	102-20	314
B1230D	Forceps, Mouse Tooth	102-20	314
B1201	Forceps, Pla-in Splinter	102-20	314
B1231c	Forceps, Thumb Dressing	102-20	314
EA-8474	Funnel	102-20	314
PR-1106	Gloves, Surgeons	102-20	314
EA-8892	Irrigator	102-20	314 .
H6143	Splint	102-20	314
B1979	Scissors, Bandage	102-20	314
B1074C	Scissors, Operating	102-20	314
C3043	Shade, Eye	102-20	314
R135	Sheet	102-20	314
BD-7161	Syringe	102-20	314
A181	Thermometer, Oral	102-20	314
A182	Thermometer, Rectal	102-20	314
D8016C	Tin, Ointment	102-20	314
EA-8312	Tray, Instrument	102-20	314
EA- 8915	Urinal	102-20	314

<u>STD. NO.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
6.3	<u>AMCHEM PRODUCTS CO.</u>		
	Alodine	14-2	217
	Lithoform	14-2	217
6.4	<u>AMERCOAT CORPORATION</u>		
.78	Amercoat	"14-5	217
78	Amercoat	14-8	217
85	Epoxy	14 - 8	217
6.5	<u>AMERICAN</u>		
	Electric Washer	18-2.	314
	Electric Dryer	18-2	314
6.6	<u>AMERICAN RADIATOR</u>		
	Plumbing Fixtures	20-1	314
6.7	<u>ANGELICA</u>		
128-HHR	Apron, Cooks	102-6	314
134-WBR	Apron	102-6	314
206--THS	Caps, Cooks	102-6	314
334-BBS	Coat, Cooks	102-6	314
306-HHS	Coat, ,Messmen/s	102-6	314
304-WLS	Coat, Messmen's	102-6	314
6.8	<u>ARMSTRONG</u>		
	Diestock, Dies & Taps	102-5	022
	Diestock, Dies & Taps	102-5	022
6.9	<u>ASSOCIATED RESEARCH, INC.</u>		
2201	Insulation Resistance Tester	98-1	022

<u>STD. NO.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
6.10	<u>BAILEY</u>		
	Refrigerator	17-10	314
	Refrigerator & Freezer	17-14	314
150	Ice Cuber	17-14	314
6.11	<u>BAILEY METER CO.</u>		
	Engineering Services for Centralized Engine Room & Bridge Control System	99-1	418
6.12	<u>BAND-IT TOOL</u>		
	Tool, Banding	102-5 "	022
6.13	<u>BARD-PARKER</u>		
io	Knife Blade, Surgical	102-20	314
11	Knife Blade, Surgical	102-20	314
3	Knife Handle	102-20	314
6.14	<u>BAUSCH & LOMB</u>		
	Glass, Chart Reading	102-2	316
6.15	<u>BEST UNIVERSAL LOCK CO.</u>		
	Hardware	21-1	022
6.16	<u>J. G. BIDDLE</u>		
8050	Tester, Insulation Resistance	98-1	022
6.17	<u>BIGELOW BEAUVILLE</u>		
1506	Rug	102-18	314"
6.18	<u>BLAZR-JOHANNS CO</u>		
	Chair, Deck	102-18	314

<u>STD. NO.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
6.19	<u>BLOOMFIELD</u>		
177G	Dipper	102-16	314
402	Disher, Ice Cream	102-16	314
99	Dispenser, Sugar	102-10	314
99	Dispenser, Sugar	102-11	314
200	Pan, Frying	102-16	314
140	Pan, Frying	102-16	314
320	Pan, Frying	102-16	314
21	Slicer, Egg	102-16	314
43	Tenderizer	102-16	314
3144	Tongs, Ice	102-13	314
6.20	<u>BOLTABILT</u>		
1622A	Tray, Serving	102-16	314
6.21	<u>BOMMER</u>		
5030	Coat Hook & Bumper	21-8	314
6.22	<u>BORAXO</u>		
	Dispenser, Soap	20-12	314
6.23	<u>BOSTON</u>		
KS	Sharpener, Pencil	102-19	314
6.24	<u>BOSTON & LOCKPORT</u>		
	Block	9-3	014
6.25	<u>BRIGHT STAR</u>		
1625	Flashlight	102-4,102-5, 102-18	022

<u>STD. NO.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
6.26	<u>CHICAGO PNEUMATIC TOOL COMPANY</u>		
	Wrench, Impact	102-5	022
6.27	<u>CLAYTON & LAMBERT</u>		
32A	Torch, Blow	102-3, 102-5	022
6.28	<u>COLUMBIA</u>		
	Test, Electric Tong	98-1	022
6.29	<u>COLUMBIA VICE & MANUFACTURING CO.</u>		
10-RD-W	Vise, Woodworker	18-4	022
604-1/2-M2	Vise, Machinist	18-4	0 2 2
6.30	<u>COMMERCIAL</u>		
	Shellac	14-8	217
6.31	<u>COMPCO CORPORATION</u>		
190	Test, Lamp	98-1	022
6.32	<u>CONTINENTAL AIR FILTER, INC.</u>		
	Filters, Air	12-7	022
6.33	<u>H. F. COORS, CO., INC.</u>		
	Baker	102-9	314
	Cup, Custard	102-9	314
	Dish, Pot Pie	102-9	314
	Dish, Shirred Egg	102-9	314
	Pitcher	102-9	314
	Pot, Bean	102-9	314
	Pot, Coffee	102-9	314
	Cover, Coffee Pot	102-9	314

<u>STD: NO.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
	Cover, Hot Water Pot	201-9	314
	Pot, Tea	102-9	314
	Cover, Tea Pot	102-9	314
	Tubb, Ice/Butter	102-9	314
6.34	<u>CRANE CO.</u>		
	Plumbing Fixtures	20-1	314
6.35	<u>DAVID TAYLOR</u>		
	Basin, Model	1-9	712
6 . 36	<u>DAVOL</u>		
	Catheter	102-20	3 1 4
6.37	<u>J. C. DEAGAN</u>		
206	Chimes, Dinner	102-18	314
6.38	<u>DESMOND-HUNTINGTON</u>		
	Dresser, Grinding Wheel	102-5	022
6039	<u>DESMOND-SIMPLEX</u>		
w-10	Vise, Woodworkers	18-4	022
6.49	<u>DETECTO</u>		
	Scale, Bakers	17-14	314
6.41	<u>DIETZGEN</u>		
832	Compass, Drawing	102-2	022
786	Dividers	102-2	022
6.42	<u>DITTO</u>		
18D-70	Machine, Duplicating	102-19	314

<u>STD. NO.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
6.43	<u>DUNHAM-BUSH, INC.</u>		
	Connectors	12-6	315
	Heaters, Unit	12-6	315
6.44	<u>EDLUND</u>		
2	Opener, Can	102-16	314
6.45	<u>E M P I R E</u>		
1802L	Percolator, Coffee	102-16	314
6.46	<u>ERIE TOOL WORKS</u>		
24-1/2	Vise, Machinists	18-4	022
6.47	<u>E.R.P.I.</u>		
	Meter, Sound	12-9	022
6.48	<u>FAIRBANKS MORSE</u>		
	Scale, Platform	17-14	314
6.49	<u>FARR CO.</u>		
	Filter, Air	12-7	315
6.50	<u>FILTER QUEEN</u>		
31	Cleaner, Vacuum	102-18	314
6.51	<u>FLINTKOTE</u>		
746	Emulsion, Asphalt	7-4	217
6.52	<u>FMc</u>		
75A-3	Disposer, Garbage	17-14	314

<u>STD.NO.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
6.53	<u>FORMICA</u>		
32-TK-57	Picwood	25-3	314
19-CR-27	Picwood	25-3	314
6.54	<u>FOSTER</u>		
	Refrigerator	17-10	314
	Refrigerator & Freezer	17-10	314
6.55	<u>FRIGI-KING</u>		
	Refrigerator Plant	27-3	315
6.56	<u>FRIGITEMP</u>		
863-55.	ICE CUBER	17-14	314
6.57	<u>GATES ENGINEERING CO.</u>		
N-62	Gacute Asphalt	14-5	217
NA- 62	Gacute Asphalt	14-8	217
6.58	<u>GAYLORD</u>		
	Ventilator, Exhaust	12-10	315
6.59	<u>GENERAL ELECTRIC</u>		
MR07A	Range	17-14	314
MN42A	Oven	17-14	314
MN901	Ovven	17-14	314
MG55A	Griddle	17-14	314
MK20A	Kettle, Fry	17-14	314
ST301	Dishwasher	17-14	314
CT24	Toaster	17-14	314
	Washer	18-2	314
	Dryer	18-2	314
F-64	Iron	18-2	314
	Engineering Services, Centralized Engine Room & Bridge Control System	99-1	418

<u>STD. NO.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
6.60	<u>GENERAL RADIO</u>		
1551B	Meter, Sound	12-9	015
6.61	<u>H. S. GETTY & CO.</u>		
	Hardware, Marine	21-1	314
1365	Lockset	21-2	314
1345	Lockset	21-2	314
1373	Lockset	21-2	314
1370	Lockset	21-2	314
1821	Lockset	21-2	314
1519	Lockset	21-2	314
1113	Lockset	21-2	314
1657	Lockset	21-2	314
1401	Latchset	21-2	314
1405	Latchset	21-2	314
1410	Latchset	21-2	314
1201	Latchset	21-2	314
1752	Latchset	21-2	314
2379	Handle	21-2	314
3110	Holder, Door	21-8	314
5600	Hooks, Coat & Hat	21-9	314
6.62	<u>GLYPTOL</u>		
	Glyptol	81-8	217
6.63	<u>B. F. GOODRICH</u>		
	Hose, Steam	102-5	022
6.64	<u>GRACO</u>		
225-770	Pump, Grease Gun	102-5	022
6.65	<u>GREENFIELD</u>		
150	Diestock, Dies & Taps	102-5	022
B-10	Diestock, Dies & Taps	102-5	022

<u>STD. NO.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
6.66	<u>HALL CHINA CO.</u>		
	Baker	102-9	314
	Cup, Custard	102-9	314
	Dish, Pot Pie	102-9	314
	Dish, Shirred Egg	102-9	314
	Pitcher	102-9	314
	Pot, Bean	102-9	314
	Pot, Coffee	102-9	314
	Cover, Coffee Pot	102-9	314
	Pot, Hot Water	102-9	314
	Cover, Hot Water Pot	102-9	314
	Pot, Tea	102-9	314
	Cover, Tea Pot	102-9	314
	Tub, Ice/Butter	102-9	314
6.67	<u>HAUCK</u>		
	Torch, Blow	102-5	022
6.68	<u>G. B. HENNE & CO.</u>		
	Hardware, Marine	21-1	314
6.69	<u>HICKOK</u>		
6000A	Tester, Tube	98-1	022
6.70	<u>HOBART</u>		
AS-200	Mixer	17-14	314
1612	Slicer, Meat	17-14	314
34B	Disposer, Garbage	17-14	314
SM- 6T2	Dishwasher	17-14	314
6.71	<u>HOWE</u>		
	Scale, Bakers	17-14	314
	Scale, Platform	17-14	314

<u>STD. NO.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
6.72 <u>HUFEMAN</u>			
N201	Measure, Liquid	102-5	314
N202	Measure, Liquid	102-5	314
6.73 <u>INTERNATIONAL PAINT CO.</u>			
4419/4414	Epoxy	14-8	217
4437	HF	14-8	217
6.74 <u>INTERSOLL RAND</u>			
5340-TO	Wrench, Impact	102-5	022
6.75 <u>KLEENEX</u>			
	Kleenex	20-12	314
6.76 <u>KENT</u>			
K-16	Machine, Floor Polishing	102-18	314
6.77 <u>LAMSON</u>			
828	Cleaver	102-16	314
611B	Fork, Cooks	102-16	314
67B	Fork, Cooks	102-16	314
6280N	Knife, Boning	102-16	314
6S02	Knife, Bread	102-16	314
6280	Knife, Butcher	102-16	314
60766	Knife, Cooks	102-16	314
6512	Knife, Grapefruit	102-16	314
8215	Knife, Paring	102-16	314
6803	Knife, Slicing	102-16	314
9003	Spatula	102-16	314
12	Scraper, Dough	102-16	314
157	Steel, Butchers	102-15	314

<u>STD. NO.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
6.78 <u>LEGION</u>			
s-15i62	Boiler, Double	102-16	314
S-15343	Bowl, Mixing	102-16	314
s-15344-----	Bowl, Mixing	102-16	314
S-31041	Bowl, Sugar	102-16	314
S-1525	Caster Set	102-16	314
	Bottle, Caster Set	102-16	314
S-300B	Compote	102-16	314
S-30152	Pitcher, Cream	102-16	314
S-2007A1	Tray, Bread	102-16	314
6.79 <u>LESLIE CO.</u>			
	Heater, Storage Type	59-4	315
6.80 <u>LINCOLN</u>			
1296	Pump, Grease Gun	102-3, 102-5	022
6.81 <u>LISK-SAVORY</u>			
575-18	Bucket	102-18	314
	Garbage Can w/cover	102-16	314
510-06	Garbage Pail	102-16	314
526-20	Garbage Can w/cover	18-3,18-4,102-5	314
6.82 <u>LOVELL-DRESSEL</u>			
570-F6	Light, Portable	102-4	022
6.83 <u>LUFKIN</u>			
"ATLAS",	Tape, Sounding	102-3, 102-5	022
6.84 <u>MARCO</u>			
	Snake, Plumbers	102-3, 102-5	022

<u>STD. NO.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
6.85	<u>MARKET FORGE</u>		
186C	Oven	17-14	314
STAS-E-MT5	Cooker/Kettle	17-14	314
JET-E-MT5	Cooker/Kettle	17-14	314
6.86	<u>MASLAND</u>		
DC-5012	DURAN	25-3	217
A663F	Maircell	25-3	217
6.87	<u>McCALL</u>		
	Refrigerator	17-10	314
	Refrigerator & Freezer	17-14	314
6.88	<u>METAL PHOTO</u>		
	Name Plates	24-1	314
	Signs	24-7	314
	Plates	24-15	314.
	Charts	100-8	314
6.89	<u>METROPOLITAN</u>		
SC216	Whip, Ballon	102-16	314
SC112	Whip, French	102-16	314
6.90	<u>MICARTA</u>		
84M00	Micarta, Palmetto Green	25-3	217
90M70	Micarta, Aztec Tan	25-3	217
	Micarta, Cathay Blue	25-3	217
94M09	Micarta, Jasper Green	25-3	217
	Micarta, Alpine White	25-3	217
81M05	Micarta, Cathay Beige	25-3	217
80-M-94	Micarta, Leather Green	25-3	217
15-577-X	Micarta, Cork Mahogany	25-3	217

<u>STD. NO.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
92M27	Micarta, Sunset Bay Walnut	25-3	217
96-M-23	Micarta, Cylon Teak	25-3	217
M-9208	Micarta, Gray Mahogany	25-3	217
	Micarta, Mt. Vernon	25-3	217
90M14	Micarta,		
90M68	Micarta, French Vanilla	25-3	217
80M52	Micarta, Fancy Free Coral	25-3	217
6.91 <u>MOELLER</u>			
380	Thermometer, Galv. Iron Frame	102-18	015
380	Thermometer, Shiphold	102-2	015
351	Thermometer, Wall	102-2	015
6.92 <u>MOHASCO</u>			
	Rug	102-18	314
6.93 <u>MORSE</u>			
3	Arbor, Taper	102-5	022
	Diestock, Dies & Taps	102-5	022
3	Drill, T.S.	102-5	022
3	Socket, Taper	102-5	022
51H	Drill & Countersink	102-5	022
4	Sockets, Taper Reducing	80-2	022
6.94 <u>MOUND</u>			
906P	Tools, Packing	102-5	022
6.95 <u>NASH</u>			
S3	Box, Bread	102-16	314
119	Pan, Frying	102-16	314
S 9F	Strainer	102-16	314
S12C	Strainer	102-16	314

9.96 NAUGAHYDE

BA-73	Naugahyde, Parchment	25-3	314
GA-2	Naugahyde, Mocha	25-3	314
GA-4	Naugahyde, Flame	25-3	314
GA-12	Naugahyde, Antique White	25-2	314
EN-81	Naugahyde, Royal Gold	25-2	314
GA-5	Naugahyde, Bamboo	25-2	314
GA- 8	Naugahyde, Cerulean	25-2	314

6.97 NEILSON CHEMICAL CO.

	Alumiprep	14-2	217
	Galvaprep	14-2	217

6.98 NORTON

1600	Door Closer	21-7	314
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6.99 OCEANIC

2244	Light, Portable	102-5	022
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6.100 PILGRIM

	Propeller Nut	53-1	022
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6.101 PITTSBURGH CHEMICAL CO.

	Traset	14-5, 14-8	217
N-35595	Duracron, Dark Beige	25-3	217

6.102 POLAR

200C	Bucket, Batter	102-16	314
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6.103 PONSELL

Q-15	Machine, Floor Polishing	102-18	314
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6.104 PUROX

W-202	Welding & Cutting Outfit	102-18	314
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<u>STD. No.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
6.102	<u>REMINGTON RAND</u>		
DM-99120-5	Calculator	102-19	314
6.106	<u>REX CABINET CO.</u>		
101	Chair, Deck	102-18	314
6.107	<u>RUBBERMAID</u>		
7021	Mat, Rubber	102-18	314
6.108	<u>RUDDER INSTRUMENTT CO.</u>		
B	Rudder Course Board	15-1	316
6.109	<u>RUDSCO</u>		
8	Bell, Dinner	102-18	314
	Board, Cutting	102-16	314
	Board, Pastry	102-16	314
18	Cutter, Slaw	102-16	314
8477	Funnel	102-16	314
6703	Grate, Icing	102-16	314
5065	Glass, Bar	102-17	314
8474	Funnel	102-17	314
J204	Jigger	102-17	314
J205	Jigger	102-17	314
	Paddle, Stirring	102-16	314
1400	Scoop, Ice	102-17	314
5064	Shaker, Bar	102-17	314
115	Squeezer, Lime	102-17	314
8090	Spoon, Mixing	102-17	314
70	Strainer	102-17	314
500	Pan, Pudding	102-16	314
1000	Pan, Pudding	102-16	314
5079	Saw, Meat	102-16	314
466	Pan, Bread	102-16	314

<u>STD. NO.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
6.110	<u>RUSSWIN</u>		
	Hardware, Marine	21-1	314
MA1061	Lockset	21-2	314
S3837	Lockset	21-2	314
M229	Lockset	21-2	314
229 1/2	Lockset	21-2	314
CS4356	Lockset	21-2	314
S4313	Lockset	21-2	314
4224	Lockset	21-2	314
M506	Latchset	21-2	314
506	Latchset	21-2	314
M028	Latchset	21-2	314
4220	Latchset	21-2	314
522	Latchset	21-2	314
S4189	Latchset	21-2	314
S4189	Door Holder	21-8	314
400/500	Door Closers	21-7	314
6.111	<u>SAMSONITE</u>		
8783	Table, Folding	102-18	314
1783	Chari, Folding	102-18	314
6.112	<u>SCHLAGE LOCK CO.</u>		
	Hardware, Marine	21-1	314
6.113	<u>SILEX</u>		
	Coffee Maker	17-14	314
	Warmer Unit	17-14	314
6.114	<u>SILVER KING</u>		
	Cleaner, Vacuum	102-18	314

<u>STD. NO.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
6.115	<u>SIMES</u>		
44759R	Lamps	19-6	314
6.116	<u>SIMPSON</u>		
260RT	Milliammeter	98-1	015
6.117	<u>SIMTEX</u>		
	Colonnade, Table Cloth	102-6	314
6.118	<u>SLOAN</u>		
	Valves, Flush	20-8	313
6.119	<u>SNAP-ON</u>		
	Wrench, Socket, Heavy Duty	102-5	022
	Wrench, Socket, Extra Heavy Duty	102-5	022
	Wrench, Socket Standard	1 0 2 - 5	022
	Wrench, Socket, Midget	102-5	022
6.120	<u>STANDARD</u>		
	Compass & Binnacle	15-1	316
	Compass & Binnacle	15-2	316
T-18	Machine, Duplicating	102-19	314
6.212	<u>STANDARD CABINET CO.</u>		
TA125FS-GTL538	Temperature Humidity Chamber	94-4	015
6.122	<u>STANDARD SANITARY CORP .</u>		
	Fixtures, Plumbing	20-1	314
6.123	<u>STANLEY-ATHA</u>		
1060C	Pin, Drift.	1 0 2 - 5	022

<u>STD. NO.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
6.124	<u>STEVENS WALDEN</u>		
T-73	Wrench, Socket	102-5	022
6.125	<u>STRAUS-DUPARQUET</u>		
G530	Dish, Relish	102-10	314
6.126	<u>TAYLOR</u>		
5522	Hygrometer, Mason's Form	102-2	015
6.127	<u>THERMADUKE</u>		
E-5-sR	Table, Hot Food	17-8	314
6.128	<u>THERMO-KING</u>		
	Refrigerator Plants	27-3	315
6.129	<u>TOASTMASTER</u>		
G020A2RA	Range	17-14	314
G18A12A	Oven	17-14	314
GC713B	Griddle	17-14	314
5402	Slicer, Meat	17-14	314
G1414B	Kettle, Fry	17-14	314
1D3	Toaster	17-14	314
6.130	<u>TRANE CO.</u>		
	Connectors	12-5	315
6.131	<u>TRANS-COLD</u>		
	Refrigerator Plant	27-3	315
6.132	<u>TRIUMPH</u>		
N1-20s	Mixer	17-14	314

<u>STD.NO.</u>	SUBJECT	<u>SECTION</u>	<u>FACC</u>
6.233	<u>U.S. RUBBER</u>		
	Hose, Steam	102-5	013
6.234.	<u>VACULATOR</u>		
MAC-45-SH	Coffee Maker	17-14	314
E2L -SE	Warmer Unit	17-14	314
6 .135	<u>VICTOR</u>		
	Calculator	102-19	314
6.136	<u>VOLLRATH</u>		
5862	Ladle	102-16	314
5846	Ladle	102-16	314
5850	Ladle	102-16	314
5912	Pail	102-16	314
5884	Skimmer	102-16	314
5886	Skimmer	102-16	314
7872	Pot, Bain Marine	102-16	314
7904	Cover, Bain Marine Pot	102-16	314
6012	Spoon, Cooking	102-16	314
6016	Spoon, Cooking	102-16	314
6112	Spoon, Cooking	102-16	314
6.137	<u>WEAR-EVER</u>		
5024	Canister	102-16	314
4611	Colander	102-16	314
4616	Colander	102-16	314
5062	Dredge	102-16	314
5435	Pan, Bread & Load	102-16	314
4076	pan, Saute	102-16	314
4098	Pan, (Brazier)	102-6	314
4254	Pot, Stock	102-16	314
3102	Strainer, Pot	102-16	314

<u>STD. NO.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
6.138	<u>WESTINGHOUSE</u>		
901	Ammeter	98-1	015
	Washer	18-2	314
	D r y e r	18-2	314
	Engineering Services, Centralized Engine Room & Bridge Control System	99-1	418
6.139	<u>WESTON</u>		
749	Ammeter, Volt	98-1	015
9886	Plug Adapter	98-1	015
901	Ammeter, DC	98-1	015
980	Milliammeter	98-1	015
981	Tester, Tube	98-1	015
6.140	<u>WILLIAMS</u>		
20	Jack, Flange	102-5	022
H-3A	Wrench	102-5	022
x-3	Wrench	102-5	022
M-1	Wrench	102-5	022
S-1-A	Wrench	102-5	022
6.141	<u>WITT CORNICE</u>		
1	Garbage Can	18-3,18-4,102-5	314
1	Waste Can	23-2	314
CF	Can	23-2	314
	Garbage Can	102-16	314
8	Carbage Pail	102-16	314
6.142	<u>YOUNG RADIATOR CO.</u>		
	Connectors	12-6	315
	Unit Heaters	12-6	315

<u>STD. NO.</u>	<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
6.143 <u>ZYTEL</u>	Curtain Glides	25-2	314

7. INDEFINITE CITATIONS

<u>TYPE</u>	<u>NUMBER</u>
7.1 Dependent on Unique Characteristics of a Particular Ship	4
7.2 Incomplete Citation	8
7.3 Indefinite Organizational Reference	1
7.4 Indefinite Reference to Standards	3
7.5 Unidentified Specification Number	36
TOTAL	<hr/> 52

NOTE : See also Category 1.6 - "Regulatory Bodies, General Reference" (32 citations).

<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
<u>7.1 DEPENDENT ON UNIQUE CHARACTERISTICS OF A PARTICULAR SHIP</u>		
Books & Govt. Publications	102-2	024
Fire Hose Coupling Adapters Used in Ports of Ships Normal Schedule	58-6	313
Flag, Foreign Ensigns	102-2	316
Stevedore's Work Rules	24-1	017
<u>7.2 INCOMPLETE CITATION</u>		
Class B or F Insulation, Stator & Rotor	88-2	413
Class B, F, or H Insulation, Auxiliary Motors	91-1	011
Class B, F, or H Insulation, Over 1/4 H. P. Motors	91-1	011
Chrome Plated Finish US26D	21-1	016
Hammer, Fed. Spec. Lumber Missing	102-3	022
TENV or Explosion Proof Motors	81-8	011
Visual Signal Guide	102-2	313
<u>7.3 INDEFINITE ORGANIZATIONAL REFERENCE</u>		
Cargo Gear Certification Organization	1 - 5	500
<u>7.4 INDEFINITE REFERENCE TO STANDARDS</u>		
Abbreviations, to Accepted Standards	24-1	024
Plumbing Fixtures, High Grade Marine Type	20-1	313
Rat Proofing, Proper	12-9	315
<u>7.5 UNIDENTIFIED SPECIFICATION NUMBER</u>		
Carpet	25-3 (2 Refs)	314
Gas Analysis Set	61-24	015
Laminate Resin	25-3	314
Paint	14-2, 14-3 (3 Refs) 14-4 (4 Refs), 14-5, 14-6, 25-3 (13 Refs)	217

<u>SUBJECT</u>	<u>SECTION</u>	<u>FACC</u>
Silicate, Inorganic Self-Cure	14-8	217
Tile , Vinyl Asbestos	25-3 (6 Refs)	314
Varnish, Spar	14-4	217
Venerer	25-3	314

APPENDIX F

SHIPYARD SURVEY QUESTIONNAIRE

CORPORATE - TECH PLANNING INC.

**JOHN-HART MANSION • THE HILL
PORTSMOUTH, NEW HAMPSHIRE 03801
(603) 431-5740**

Dear Sir:

Bath Iron Works Corporation, with overall responsibility for the SNAME - MarAd National Shipbuilding Standards Program, has arranged for Corporate-Tech Planning, Inc. to survey existing standards to index those which could assist U.S. shipbuilders. Corporate-Tech is in the process of surveying published foreign, regulatory and U.S. consensus standards. This questionnaire is an attempt to determine the extent to which private shipyards and ship owners have developed additional standards. We ask only a few minutes of your time to answer the questions on the following pages. If you have any questions, please call Jim Burbank or Bob Jenner, Corporate-Tech Planning, Inc. at (603) 431-5740 or John Mason, Bath Iron Corks Corp., at (207) 443-3111, ext. 2115.

Thank you in advance for your help.

☐

Check here if you would like to receive a tabulation of survey results.

☐

Check here if you would like a copy of the minutes of the organizational meeting of ASTM Committee F-25 Shipbuilding.

Whom should we call if we have a question?

NAME _____

COMPANY _____

PHONE _____

The questions asked apply to standards which describe material things or procedures, such as ladders, doors or test methods. These questions do not apply to cost standards, such as Industrial Engineerinlabor standards, (feet of weld per hour, manhours per ton).

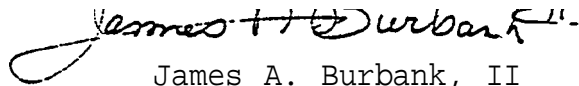
The standards we want to learn about are:

- Documents (words and/or drawings) which describe an approved part, method, or test.
- Established "accepted practices" or guidelines".
- Standards which have potential application on more than one ship and in more than one shipyard.

Examples of such standards might include standard ladders, brackets, openings, doors, etc., standard test tolerances, dimension tolerances, etc., standard drawing formats, conventions, etc. standard performance requirements for components.

Do not count shipyard standards set by facility limitation, such as, maximum lifts or standard plate sizes.

With appreciation,

A handwritten signature in black ink, appearing to read "James A. Burbank, II". The signature is fluid and cursive, with a large loop at the beginning and a trailing flourish at the end.

James A. Burbank, II
Senior Staff Member

JAB: bren
Enclosures

SHIPBUILDING STANDARDS QUESTIONNAIRE

This brief questionnaire is being circulated in connection with the SNAME-MARAD National Shipbuilding Research Program. One part of that program is to support commercial shipyards in the development and use of shipbuilding standards. A Shipbuilding Committee has been formed under the auspices of ASTM. Also, SNAME Panel SP-6 on Standards has been reactivated.

There are perhaps around 30,000 standards published in the world, of which probably 10% can assist in reducing costs in shipbuilding.

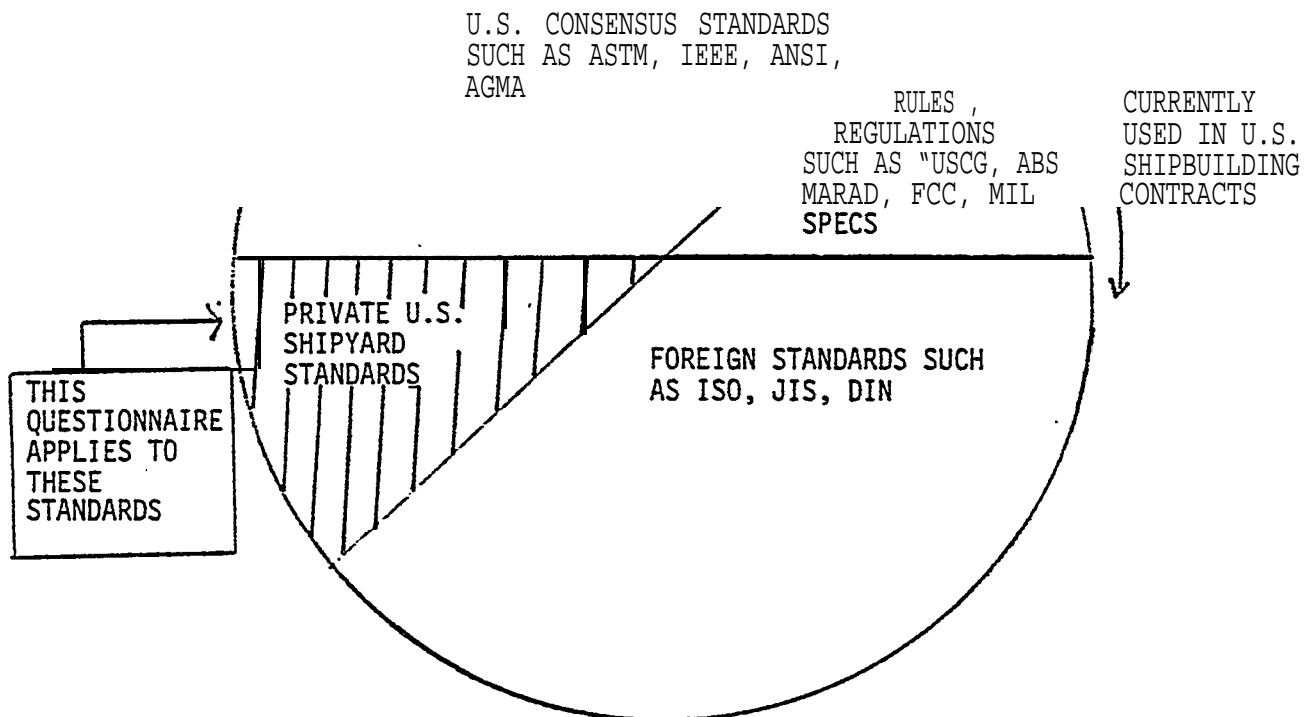


FIGURE 1 - STANDARDS WHICH CAN BE USED IN SHIPBUILDING
COME FROM MANY SOURCES

1. Is any organizational position in your company charged with maintaining company standards?

☐ NO ☐ YES - Standards are the responsibility of:

POSITION AND DEPARTMENT

2. How many shipyard developed standards do you have? (Do not count National or International Standards which are in the Public Domain, such as ASTM, ANSI, ISO, ASME, etc.)

☐

If you have no shipyard developed standards, put "0" in answer box, and return questionnaire to J.A. Burbank, Corporate-Tech Planning, Inc., John Hart Mansion, The Hill, Portsmouth, New Hampshire 03801.

3. If you have company developed standards, are they:

YES NO

- | | | |
|----------------------------------------------------------------------------------------------------|--------------------------|--------------------------|
| (a) All issued by one organizational unit? | <input type="checkbox"/> | <input type="checkbox"/> |
| (b) Subjected to an approval procedure? | <input type="checkbox"/> | <input type="checkbox"/> |
| (c) Systematically reviewed periodically? | <input type="checkbox"/> | <input type="checkbox"/> |
| (d) All listed or catalogued so that potential users within the yard can learn of their existence? | <input type="checkbox"/> | <input type="checkbox"/> |

COMMENTS

4. The most important Portion of this questionnaire is a request for a list of titles (and identifying numbers if they exist) of your company standards. Please forward the information in whatever form may be easiest for you, e.g., an electrostatic copy of your standards indexes, etc.